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DEPARTMENT

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GAME & FISHERIES



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HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister



DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

VOLUME TWO

MAY, 1937

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Editorial Comment

HERE is an old maxim which says, in effect, that it is idle to lock the stable door after the horse has vanished. It contains a great deal of wisdom when applied to our wild life. Conservation is an attempt to lock the stable door, metaphorically speaking, while the contents are still intact. In other words it is an effort to protect the resources which are available today in anticipation of the needs of tomorrow.

It is this concern about the future which makes the conservation movement so important. Present-day demands on our fish and game resources are very heavy. Each year sees increasing numbers of anglers finding health and relaxation patrolling our lakes and streams in pursuit of our sporting fish. This is true also of our tourist guests, as shown by the fact that 11,901 more non-resident angling licenses were sold in 1936 than in 1935. To meet these demands the Department is concentrating on artificial propagation of the most advanced type, and a re-stocking programme which contemplates the planting of yearling or adult fish wherever possible instead of fry and fingerling. Preserve areas which are a part of the programme will serve to stimulate natural reproduction and augment the work of the hatcheries.

No programme of re-stocking, however, can be successful without the co-operation of those whom it is intended to benefit. The opportunities for waste and illegal destruction are many. Waste is usually the result of thoughtlessness and is not confined to any one class. The keen enjoyment of the sport often leads to excessive taking, even within the limits of the law. The sportsman knows his needs and should be willing to stop when these have been supplied. Destruction by illegal methods is more difficult to control because the poacher works under cover. Those who have knowledge of any depredations of this kind are asked to co-operate with the Department by reporting the facts. Information of this nature will be kept confidential.

It is quite apparent that sportsmen are daily becoming more conservation minded. Conservation and sportsmanship are closely allied, and with such an alliance the preservation of our fishing resources is assured.

Working with Nature

The works of Creation are frequently beyond our comprehension. The mysteries of the universe baffle our understanding and subdue our egotism, yet we speak of the solar system as if it were an open book, and millions of light years as if they constituted but a brief period, like the three hundred and sixty-five days that form the normal calendar year. The earth revolving on its axis and playing tag with the sun we accept as a matter of course, and proceed to speculate on what would be the result if the one should happen to tag the other. Sun, moon, wind, rain, snow, tides, etc., all have been theoretically explained through scientific study, and with mathematical accuracy. And yet, despite all our knowledge, ships sink, mines are shattered by explosions, drought burns up the land, and floods bring death and destruction. Catastrophes such as these are the result of man's conflict with the forces of nature and show a lack of knowledge of these forces, or a disregard of the natural laws.

The necessity for the conservation of our wild life resources may also be laid to a general disregard for the laws of nature and a lack of accurate knowledge regarding the plan of inter-relationship between the species which decrees that life is fostered through death and that the fittest shall survive. Despite this inexorable law the scheme of Nature is so finely adjusted that a natural balance between the species is set up which, if not unduly disturbed, would ensure a continuous supply. The upsetting of this balance must unquestionably be laid on man's shoulders, and while it is frequently unavoidable because of our complex social and economic systems, yet there is much that we can do to aid Nature and ensure the perpetuation of our wild life. Let us briefly review some of the conditions which have resulted in a scarcity of game in forest and field and a depletion of game fish in many of our lakes and streams.

Natural habitat is essential to the development of wild life. This implies food, water and cover. Before the advent of the white man these essentials were everywhere, for the Indians were not numerous and their social and industrial pursuits were simple. Under more or less ideal conditions, therefore, the wild life abounded. With the settlement of the country and the advance in civilization these conditions began to change. Natural habitat was destroyed through the cutting down of forests and clearing of land. The establishment of towns and villages necessitated the building of roads and railways. Industrial development was followed by lumbering operations and the damming of streams to provide power. Intensive farming operations had the effect of driving the game farther afield. In short, it may be said that every advance in civilization had an adverse effect on the wild life situation. These developments were the natural outcome of the settlement of a country, and they were carried on without regard to wild life requirements.

In the light of present-day knowledge and experience we are beginning to realize that perhaps we have unduly interfered with Nature in the development of our civilization. Drought, soil erosion, floods and climatic changes are problems of the first magnitude. They have been responsible for untold suffering, tremendous hardships, and appalling economic losses. They are in large measure the result of the thoughtless destruction of forests and vegetation without replacement, the draining of surface water areas, swamps, etc., without regard to the moisture requirements of the soil, and a general lack of knowledge as to the effect of this unbridled interference with natural conditions. The indiscriminate cutting down of trees and destruction of vegetation interferes greatly with Nature's plan for providing moisture for the soil. It also results in destroying the environment so necessary to wild life development. Besides its effects on soil conditions, the draining of swamp areas wipes out the breeding places of many birds and animals with disastrous results to the propagation of various species. It has been demonstrated that in many cases drained swamp lands are of little value for agricultural purposes and contribute much to soil erosion.

The natural propagation of fish life is also closely associated with conditions in forest and field. The ruthless cutting down of trees prevents the collection and holding of moisture, with the result that the soil becomes parched and the springs and small brooks dry up. This is followed by a scarcity of food, and with the slowing up of the current and lack of shade the temperature rises, making it almost impossible for certain species to survive. Flood conditions, the antithesis to drought, are equally destructive. Many of our game fish deposit their eggs in water not too swift to wash them away and not too slow to be stagnant. The small eddies and the little sheltered bays provide ideal protection for spawning purposes. Floods make raging torrents of these more or less quiet waters, and with the rush of water frequently goes millions of eggs or little fish. These flood waters also carry down mud and silt, depositing it upon all forms of aquatic vegetation, smothering growth and preventing the development of the minute animal life upon which small fish feed. The force of the torrent sometimes carries away large quantities of food-bearing vegetation, larvae, etc. A shortage of water, on the other hand, drives all the fish into the deep holes, where the little fellows fall easy prey to their bigger brothers.

It is obvious that a natural environment will only support the numbers of birds, animals or fish that can find food in the area. If the preponderance of life is the "undesirable", from the sportsman's standpoint, then, the more desirable species will be further handicapped. This is exemplified in the heavy slaughter of deer by wolves, the depredations of the crow, and the destruction wrought by coarse fish. The problem of predators, however, is more complex than that of food and cover. This is primarily due to a lack of knowledge as to the ecological status of predators. Our ideas and

information on the subject are apt to be coloured by the prevalent widespread human antagonism developed through the knowledge we possess of the destruction wrought by predators on the desirable species of game and fish. This enmity is further intensified by the fact that we frequently apply the standard of human morals to wild life, and, judged by these standards, predators are the public enemies of desirable wild life. From the economic and recreational standpoints predator control is essential. There is a tendency, however, to define "control" as implying total destruction. Having in mind the serious consequences we have noted when the laws of Nature are unduly interfered with, it would seem that the idea that the supply of game and fish will be assured through wiping out all predaceous wild life that interferes with those species we desire to conserve and propagate, is open to grave doubt. The whole scheme of Nature appears to be based upon the "survival of the fittest", and this law must be respected. In the Evans Report of 1911 we find the following statement: "It is, however, accepted by the best authorities to be unwise on general grounds to run the risk of upsetting the balance of Nature by the extermination of any particular species, even though its uses to man may not be apparent, for the reason that no one can foresee the result of such extermination." Until we have gained some reliable data on the integral relationship between predators and wild life development generally it would appear desirable to assist Nature by limiting our efforts to "control" rather than extermination.

The provisions of Nature being wise and complete, we can best conserve our wild life resources by working with Nature. To ensure success in this co-operative effort will necessitate a complete reversal of those conditions which have made conservation necessary. We must, as a prime requisite, restore what we have undone, build up where we have torn down, and renew, as far as is possible, what we have destroyed. This implies a great deal. It means conserving our water resources and protecting our swamp areas. Spring floods and summer droughts are apparently beyond our control, but by judicious planning and regulation we can minimize the damage from these sources. So far as wild life is concerned both are destructive. The wholesale cutting down of trees has been shown to be harmful, therefore an intensive programme of reforestation is necessary. The sportsman should interest himself in the planting of shade trees or shrubs along his favourite stream. A number of associations have undertaken this work with very satisfactory results. In many cases this provision of Nature has been largely destroyed, with the usual baneful effect on fish life. The intensive cleaning and clearing of farm areas has destroyed much of the shrubs and vegetation which provided food and cover for birds. Here the farmer can assist Nature by leaving the hedgerows and the rough places to the wild life. The burning over of swamp areas during nesting season is very disastrous to game birds and should be avoided. Municipalities and industrial organizations can assist by preventing the pollution of streams from sewage and waste.

The Game and Fisheries Laws which restrict the hunting and fishing seasons, and also provide for limits of size and catch, are based on biological knowledge and practical experience. Closed seasons are intended to assist Nature during the reproductive period, or to afford complete protection when replenishment is necessary. Limits of catch are essential in order that the best possible use may be made of the available resources, having regard to the abundance or scarcity of any species. Close observance of these regulations will permit Nature to propagate and perpetuate our wild life and yet allow a maximum of healthful recreation and aesthetic enjoyment to the people of the Province and our tourist guests.

Stranger than Fiction

From a feature article which specializes in the strange things of life, appearing daily in an evening newspaper, we quote the following: "Fish suffer little, if any, pain when hooked, for there are very few nerves about the jaw which cause that sensation, according to the United States Bureau of Fisheries. Trout have been known to be hooked two or three times in the same day, the fisherman using the same type of bait. This would seem to indicate that hooked fish suffer little more than a temporary sense of discomfort, or are decidedly absent-minded."

We are glad to know that being "hooked" is a more or less painless experience for the fish, although, not being a fish, we cannot vouch for this. We can, however, testify to the stupidity, or absent-mindedness of one of our gamest fish, the black bass.

Last summer the writer was fishing with some boys on the Lake Huron side of the Bruce Peninsula. To reach the shoals we had to stand in the water up to our knees and cast. The bass did not appear to be interested in artificial lures but were biting vigorously at natural baits, worms, crayfish, etc. In view of the fact that they were biting well we decided to set the size limit at twelve inches. The oldest of the boys, who was standing beside me, caught a fair-sized bass. It did not appear to be the required twelve inches, so he wet his hands, took it off the hook and measured it for his own information with a twelve-inch stick he had prepared for the purpose. During the process of measuring the fish the hook, with part of a worm still on it, dropped back into the water. The bass he found to be under the required size so he gently released it. As the fish left his hand it spied the worm still dangling from the hook and immediately grabbed it a second time. The youth was amazed, and ranted loudly about the crazy fish taking the hook a second time after being released from it. Once more he took the fish off carefully and just as carefully returned it to the water. The bass hung around his legs for a moment or two, apparently bewildered at the strange things happening to it, then darted away towards the shoals. On the way out it again noticed the tantalizing bait hanging from the end of the line and for the third time grabbed it.

It would be idle to say that we were all amazed. The youthful fisherman was particularly excited at such crass stupidity on the part of the fish. "Look at that, could you beat that," he shouted, "three times the same darn'd fish has taken the hook; it doesn't want to get away", and turning to me, "shall I keep it?" I suggested he keep his hook out of the water this time till the fish got away. He did, and it did!—*J.M.*

The Result Justifies the Trouble

Speaking of the stupidity of fish, have you ever noticed how difficult it is to get a nice juicy worm impaled on a hook past the little fellows to the big lunker you can see scraping his ventral surface on the bottom? These little fry haven't sense enough to realize that such an elaborate meal is bad for the digestion, nor to appreciate your efforts to keep it out of their reach. Because of this a large number of them are annually jerked unceremoniously out of their natural environment to obtain their first view of what to them must be a topsy-turvy world. Some years ago the question of the effect on the youngsters, after they were returned to the water following this sudden inglorious and not too gentle experience, was the subject of much discussion among anglers. Did the fish die of shock, or if handled carefully, what proportion survived? In an effort to solve this problem the State of Michigan, at its Hargetta Hatchery, carried out experiments with about 600 little fish. These martyrs to science were cajoled, coaxed and finally wheedled into biting an assortment of hooks and artificial flies under the mistaken impression that they were being royally entertained. They were then pulled from the water, and after removal of the hook were restored thereto. The result of this piscatorial experiment was that all but a small percentage of them were alive and well two months after the operation. The American Game Association is authority for the statement that "all save two and a half per cent. of the young fish caught with flies survived, while a tenth of those caught with barbed hooks, the most difficult to remove, paid with their lives". The result of this experiment is justification for the claim that fly fishing conserves the supply through being less destructive to small fish. It also proves that the percentage of young fish surviving an encounter with a hook justifies sportsmanly observance of the law.

Avoid Injuring Undersize Fish

The question of what to do with undersize fish which are injured while removing the hook, is one that continually arises among more or less inexperienced fishermen. They want to obey the law, and yet it seems absurd to throw back a fish which has had its throat torn away in the process of extracting the hook. It is a difficult problem in view of the regulations, and yet it is a problem which, with a little care, can be largely avoided. There is little or no excuse for allowing a small bass, for example, to swallow the hook. If he does so, the fisherman and his methods are mostly to blame.

A bass will not swallow the hook unless given the opportunity to do so! That sounds like a very obvious remark, but a little explanation will show its significance. One "opportunity" which spells trouble for the small bass is the practice of allowing the bait to lie on the bottom. In that position the small fish will suck in the bait, giving little or no indication to the fisherman that he is doing so. Having swallowed the bait and hook he swims away, and the fisherman then realizes he has caught a fish. Unfortunately it is usually too late then to release the fish without injury.

Another practice which has the same effect, and is usually the result of inexperience, is that of giving the bass time to swallow the hook even after he has indicated that he is biting. This is usually done to ensure that the fish is well hooked before starting to bring him in. This practice invites trouble so far as small fish are concerned.

The injuring of young fish is not so common where artificial lures are used, but quite frequently happens when natural baits are employed.

While it is not suggested that there is any infallible method of keeping undersize fish from taking the hook, it is asserted that a minimum of injury may be done them by observing a few simple rules:

(1) When fishing don't allow the bait to lie on the bottom if you can possibly avoid it.

(2) When you get a strike set the hook in the usual manner, before the fish has had time to swallow it. This will usually result in catching the fish through the jaw, and if undersize will enable you to release it without injury.

(3) Carry a hook extractor in your kit. This is simple to make and may consist of a piece of thin metal with a notch at the end. This is inserted down the throat of the fish with the notch against the hook. A little downward pressure will frequently release the hook and prevent tearing the throat.

(4) All these precautions will be in vain unless you "wet your hands before handling the fish".

A Passport to Health

In the last issue of the Bulletin we quoted some interesting observations by Herbert Hoover on the recreational pleasures of fishing. Fishing, however, is more than mere recreation. It is an antidote to worry, an inducement to relaxation, and a passport to health. In an article in Good Housekeeping entitled, "Let's Go Fishing, It's Good Medicine and Good Sense", Dr. W. H. Eddy, Director of Good Housekeeping Bureau, says in part:

"What's fishing got to do with the functions of Good Housekeeping Bureau?" you ask. I answer, "Much!" Let me prove it to you. There are hundreds of factors that affect human health. Proper diet selection,

exercise, avoidance of constipation—all these matters deserve attention, and in the past year I have taken up most of them in *Good Housekeeping*. But I haven't covered all the health factors, and a fishing trip has elements of health control deserving serious consideration.

Why isn't just before dinner a good time to argue an issue with your husband? Because he needs relaxation after the day's work. When he begins to peck at his food—or to bolt it nervously—when he growls his responses to your attempts at conversation, why do you suggest the theatre or a trip? Because you know his mind is tied up in bowknots with worries and problems, because he needs to get it off business and budgets and on more pleasant things.

If you could conduct a conversation with his internal organs, you'd probably hear them saying: "Why can't he stop sending us disturbing nerve messages? If he'd stop worrying and working under such tension, we could do our job of taking care of his digestion with efficiency and without adding to his troubles. Let's go fishing!"

Yes, it's true that anger, worry, mental unhappiness, directly interfere with normal digestion and the proper behaviour of those internal organs that do our health-maintenance work. And freedom from worry, relaxation, a happy frame of mind, are real factors in controlling digestion, endocrine-gland responses, and all the important machinery of the human body. A day with a fishing rod produces the very effects it has taken science so much study and experimenting to explain.

You begin to see, then, why I suggest that you go fishing?

I don't really care whether you catch a fish or not! Of course, if your catch is good, it may help prolong your happy mood after you get back to boast to your less fortunate fishermen pals or the stay-at-homes. But if you have been fishing, you'll already have taken my cure for indigestion and fagged nerves, and seeing everything all done up in blue.

I studied fishing as a boy, in Vermont. I learned the essentials and the non-essentials. From the viewpoint of success—of mental and physical relaxation—tackle is relatively unimportant. I got all the health benefits with a bamboo pole and fishworms, though today I do like to try my skill with rod and fly.

I learned that conversation, chatter, is antagonistic to fishing. The fish don't like it and won't stay around. It interferes with your concentration on the sport and with your skill. Later, around the campfire, is the time and place to swap yarns about the big fellows that got away.

Today I realize that while I was studying fishing, I was studying the essentials of sound physiological practice. As I watch my fellow-men in

this period of business competition and worry, I realize why many are trying by pills and painful regulation of diet to get the health that a good fishing trip would go far to provide.

But why fishing rather than other forms of exercise?

There's a key to the specific value of fishing. Golf is good exercise; it gets you into the open, but it is more or less convivial. It requires company, and in company you talk about business. The mind gets no change. It's solitude that lets a true fisherman's mind commune with peaceful thoughts, gives him true relaxation and rest.

Ex-President Hoover is a real fisherman. I don't know about his skill as a disciple of Isaak Walton; I place him in that category because of his utterance in the Stanford University monthly humour magazine: "Fishing is not so much getting fish as it is a state of mind and a lure to entice the human soul to refreshment. Everyone considers that fish will not bite in the presence of representatives of the press. Fishing is thus the sole avenue now left to a public man that he may escape to his own thoughts; may find relief from the pneumatic hammer of personal contacts; may find refreshment of soul in the babble of dripping water, with the satisfaction that the fish will not be influenced either by headlines or the text."

There you have what fishing really is, what it can and will do. Ex-President Hoover is right. President Roosevelt is right when he forsakes the cares of State for rejuvenation by a fishing trip. Cut out a little of your golf and as much as you can of your business. Go fishing. You don't need the companionship that accompanies clubroom cocktails. You need solitude and Nature, and the companionship of fish."

The recreational and health-giving possibilities of fishing having been thus so clearly and authoritatively demonstrated, we are reminded anew that the resources which provide the incentive are not inexhaustible and yet with proper care may be enjoyed in perpetuity. When we really grasp the value of these resources and appreciate the personal responsibility involved in their perpetuation we will have done much to solve the problem of wild life preservation. Sportsmen are becoming more conservation-minded every day, and in this lies the hope of future abundance.

Educating the Boy

Conservationists are of the unanimous opinion that education is an essential part of the conservation programme. A knowledge of conditions as they are, and a general understanding of the problems involved in the preservation and perpetuation of our wild life resources, while continuing to make the best use of these resources, is necessary to success in the movement. It is emphasized by all interested that this education must be extended to the youth of the Province, because it is easier to "train a child

in the way it should go" than to change the ideas and habits of age developed over a long period of years. Conservation of our natural resources is so vital to our social and economic life that we are hopeful the subject may soon occupy a place in the school curriculum. We are happy to note, judging by the requests received from teachers for material on the subject, that much good work is already being done along this line. The practical application of any teaching, however, must be the concern of the individual and the available organized forces. It is most important that this angle should not be lost sight of, in fact it is only through closer personal contact with youth that our aims will be realized.

Parental responsibility also looms large in the problem of educating the boy. If you have a son, Mr. Sportsman, you will find that he will early develop the urge to go fishing. It will not always be possible to take him with you, but if you do so when you can, either voluntarily, or as a result of his pleading, you will afford him the greatest thrills of his young life.

If you turn him down, without reasonable excuse, you not only hurt his feelings, but leave him in the position of having to pick up his ideas of sportsmanship from others probably less likely to set him a good example. If, on the other hand, you make him your companion on these fishing trips just as often as circumstances will permit, you become his ideal, and he will reflect your teaching. It will be obvious that this places a responsibility upon the sportsman to so conduct himself while enjoying his favourite sport on lake or stream, that his actions will acclaim his ideals and demonstrate, not only to his own boy but to others, the rules of good sportsmanship.

The following from an editorial in *Outdoor Indiana* is very apt:

"Every son wants to be a man. Every boy yearns to go along. All youngsters have it in their blood to be outdoorsmen. It is the way of Nature and of the world and humanity. The father who forgets this—who leaves his son at home with the women—stabs more cruelly into the boyhood consciousness and pride than if he administered a physical punishment. And that boyhood pain will be enduring; it will recur in after life, in mature years, and will stand, even unconsciously, against the father guilty of the neglect. It will have no close comradeship for an aging father.

"But the father who is willing to be annoyed by youth's endless questions and childish babble and gabble; who replies to these questions with a man's answer; who puts the boy on his own level and treats him as such—such a man builds up for himself a trust, a confidence, a comradeship that will endure through life. For it is a fact that no friendship can equal that of the campfire, the hunt, or the trips a-stream or a-float. These mild adventures have cemented the lives of unrelated men with a common bond of understanding that endures throughout life. Such bonds are tenfold more binding between father and son."

Every boy yearns to be an outdoorsman, but very many have not the guiding influence of a sportsman Dad. It becomes necessary, therefore, to carry on the practical application of our conservational teaching through our protective associations. This matter has already been referred to in a previous Bulletin, but is of such importance as to require repetition. Since we mentioned the subject previously we are happy to learn that a number of associations have already formed junior auxiliaries and that others are making plans to do so. Some of these associations have enrolled the local Boy Scouts as members of their organization. This is an excellent idea, because the Scout movement is closely allied with the ideals of sportsmanship, and includes in its study programme certain requirements leading to the winning of badges and the titles of "Angler, Bird Warden and Naturalist". Education along these lines is available through contact with sportsmen, so the arrangement is of mutual benefit both to the boys and the association. As has been suggested, the education of our boys along conservational lines is of the utmost importance to the perpetuation of our wild life and all it implies. We can give this movement a much-needed fillip by introducing the young people to our organizations and demonstrating by precept and example the value of our resources and how to conserve them. This is practical education, and while it may require a division of association activities through the necessity of making the programme interesting to young people, the results will be well worth while. We hope the movement will gather momentum, and that our associations will see in it an opportunity not only for the spread of conservational knowledge, but also for the development of sportsmanship, which is the basis of good citizenship.

A Fisherman to His Son

My son, when you have older grown
I'll take you to a lake I've known
At midnight, noontime, dusk and dawn:
I want to show you where I've gone
To find my freedom—where I've spent
Days of gladness and content.
I want to be in the boat with you
When the bass are hitting—want you to
 Learn from me,
 O son of mine,
 How to swing
 A fishing line!

I've been young—too well I know
The rocky road your feet must go.
But I know, too, a path that clings
To a wooded hill where the peewee sings,
Where the dogwood grows, and oak and pine,
And all I ask, O son of mine,
Is to row a boat for you some day
Along that shore where the willows sway
 To be with you
 When first you feel
 A leaping bass
 Unwind your reel!

I want my son to sleep, as I
Have slept, beneath the sky—
I want the day's first gleaming dim
To waken something deep in him;
I want my boy to learn to take
His troubles to that shining lake
And lose them there. And so I wish
O son of mine, that you may fish!
 For my boy's sake
 I ask it, God—
 Teach him to love
 A casting rod!

—M. M. FRINK.

(In North Dakota Outdoors.)

Departmental Activities

New Preserve Areas

In an effort to provide improved hunting conditions in certain counties where birds have not heretofore been over plentiful, and with a view to creating a better feeling between the landowner and the sportsman, the Department is at present arranging, with the co-operation of the farmers, to set aside large sections of land as Preserve Areas. These areas will consist in some cases of complete townships and in others of extensive blocks within a township. The land will be closed to hunting except in accord with regulations to be provided by the Department.

It is the intention of the Department to concentrate on the stocking of these preserve areas with pheasants through the extensive distribution of eggs and the release of adult birds. Where circumstances warrant it an open season will be declared under more or less the same conditions as prevail at Pelee Island. The township authorities, or the organized farmers in each section, will be authorized to exact a special fee from every sportsman desiring to hunt in the area. Arrangements for collecting the fee and for the issuance of Permits to the hunters will be made locally and due publicity given same. Proper precautions will be taken to supervise each area, and anyone found hunting therein without the necessary authority will be severely dealt with. It should be noted that the number of permits to be issued will depend on the available birds, and that a sufficient number of birds will be preserved for future propagation.

The special fee to be charged for hunting on these Preserve areas will serve to provide some compensation to the farmer for his work in raising the pheasants, and will also ensure that the responsible hunter will not be embarrassed by being ordered off the land. Identification will be possible through the button to be issued with the gun license or the tag which will be provided on payment of the special fee, both of which must be worn by the hunter. The hunter will be responsible for any property damage he may cause the landowner.

During the past two weeks officers of the Department have been working on this scheme, investigating the best areas and interviewing the landowners. At the time of writing tentative arrangements have been made through an organized group of farmers for an area of land of approximately 20,000 acres in Westminster Township, Middlesex County, while much of the preliminary work has been done in connection with the organization of a similar group covering approximately 10,000 acres of land in Malahide Township, Elgin County. In Markham Township, York County, the Township Council has passed a resolution recommending that the whole township be organized as a preserve area under the plan outlined above. It is anticipated that other districts will be included in the scheme. The opening up of these preserve areas will relieve a great deal of the crowding in the counties where open seasons have heretofore been declared.

Re-Stocking Operations

This is a busy season in the Fish Culture Branch. Speckled trout yearlings to the number of approximately 1,270,000 will be distributed in the various lakes and trout streams of the Province. These fish average six inches in length and should soon provide excellent sport for the angler.

The planting of whitefish in commercial fishing areas is proceeding apace, and it is calculated that when the operations are completed a combined total of approximately 337 millions of whitefish will have been liberated in the waters of Lakes Superior, Huron, Erie and Ontario, Georgian Bay, North Channel, Bay of Quinte, Rainy River and Lake of the Woods.

During May and June 21 millions of lake trout will be released in the waters of the Province, approximately 20 per cent. of which will be planted in inland lakes. Thus is the angler provided for as well as the commercial fisherman.

Spawn-taking operations for pickerel and maskinonge are being extensively carried on at the time of writing. Conditions are reported to be very favourable for a good collection of spawn. With a view to increasing the maskinonge production several new localities are being tried out. The planting of these species will take place about the beginning of June.

It is a significant fact that more applications for re-stocking have been received this year than ever before. The principal reasons for this are, that through the Department's educational and publicity work more attention is being paid to this aspect of conservation, and each year more Fish and Game Protective Associations are being organized. It is a primary function of these Associations to take care of the re-stocking requirements for the district.

The following are the most important changes in the Game and Fisheries Act for 1937:

The control of migratory birds being a federal responsibility the sections referring to seasons have been deleted from the Act.

* * * *

The open season for otter has now been fixed to correspond with that for fisher, fox, marten and mink, namely: November 1st to February 28th.

* * * *

Farmers trapping on their own lands may now take otter during the regular open season as above.

* * * *

It is now unlawful for a licensed fur dealer or trapper to trade with an unlicensed person.

Non-resident moose hunting parties, of two or more persons, hunting together must engage one licensed guide for every two persons in such hunting party.

* * * *

Where any non-resident owner, operator or other person in charge of any boat or vessel bring such boat or vessel within the boundaries of Ontario under its own power, such owner, operator or other person in charge shall, while any person is angling from such boat or vessel engage and employ a licensed guide, provided however, that the Minister may exempt any such non-resident from the provisions of this subsection where he deems it advisable having regard to the local conditions.

* * * *

Non-resident licenses to hunt bear during the months of April and May will now be available at a fee of \$5.25.

* * * *

Destroying the dens of fur-bearing animals is illegal with the exception of wolf, bear and skunk.

* * * *

Two or more persons hunting together and holding licenses, may kill one female deer of any age, or one male deer under the age of one year, for every two persons of such party, but in no case shall such persons be entitled to kill more than one deer for each person of the party.

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A resident hunting party of four persons or more having a camp license or camp licenses may kill one deer for each camp license held by such party. This is in addition to the aggregate kill provided under the regular deer hunting license.

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New provisions have been incorporated prohibiting the buying or selling of non-migratory game birds. Authority to provide regulations for the commercial propagation of pheasants and quail by licensed dealers has been obtained.

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The Counties of Peel and Carleton have been added to the list of counties where the use of snares is prohibited.

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Automatic shotguns which have been plugged so as to be incapable of holding more than two shells at one time, one shell in the barrel and the other in the magazine are now legal.

* * * *

The sale, purchase or barter of small-mouthed black bass, large-mouthed black bass, maskinonge, speckled trout, brown trout, rainbow trout and

Aurora trout is prohibited, provided that the Minister may by permit or license allow the sale of speckled trout, brown trout, rainbow trout and Aurora trout where such trout is propagated by such permit or license holder.

* * * *

The sale, purchase or barter of yellow pickerel (pike-perch or dore), pike, lake trout or sturgeon taken from provincial waters by angling or taken in any other manner by any unlicensed person is illegal.

* * * *

It is unlawful for any person to buy, sell or have in his possession any fish or portion of any fish, taken from provincial waters during the time when fishing for such fish is prohibited by this Act or the Fisheries Act (Canada).

* * * *

The export from Ontario of any large-mouthed or small-mouthed black bass, maskinonge, speckled trout, brown trout, rainbow trout or Aurora trout no matter where procured is prohibited, provided that any non-resident angler fishing in provincial waters may upon leaving the Province take with him the lawful catch of one day's fishing, if accompanied by the shipping coupon furnished with the license.

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In the Districts of Rainy River and Kenora the pickerel season opens on June 1st this year instead of May 16th as formerly.

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The closed season for lake trout in Northern Ontario no longer applies to angling for these fish.

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Anglers employing a guide are prohibited from including the guide as one of the party when computing limits of catch.



ONTARIO

Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

June, 1937

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

VOLUME TWO

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Editorial Comment

EDUCATION is the foundation of all intelligent thought and action. It is the most important factor entering into the conservation of our wild life and other natural resources. Such progress as has been made in protecting, propagating and re-stocking is due to practical knowledge and scientific attainment. Practical knowledge of wild life conditions is the result of experience gained in actual personal contact and observations under natural conditions. It is not always reliable taken alone because unwarranted conclusions are frequently drawn from certain conditions or experiences which are open to several explanations. However, the practical value of such first-hand information is of very great importance, as it serves to confirm the conclusions arrived at through scientific investigation. The combination of these two sources of knowledge is the basis of our conservation programme.

Knowledge, however, is progressive. It knows no limitation. The ideas of yesterday are but the stepping-stones to future enlightenment and creative effort. In the field of wild life conservation more attention is being paid to the scientific investigation of life history and environmental conditions. The idea that our wild life resources are inexhaustible passed on with the horse and buggy and the carrier pigeon. Nature provided certain fundamental conditions necessary to wild life perpetuation. We have unwittingly disturbed these conditions and so, in order to keep pace with modern demands, we must take advantage of modern knowledge and experience. This means wise conservation laws based on biological knowledge and practical experience; the investigation of life history and natural conditions; the operation of hatcheries for intensive stocking; the setting aside of preserve areas for natural propagation and development, and the passing on of the knowledge acquired to the public through means of education and publicity. These things, the Department of Game and Fisheries is attempting to do. The results so far have justified the effort.

The sportsman can do much to foster these plans by co-operating wherever practicable and by lending his aid to put across the ideals of conservation. These ideals have been developed over a long period of years. They embody the results of progressive thought and scientific knowledge, therefore they are modern and worth while. They proclaim individual responsibility as necessary to success, and organized effort the best method of accomplishing the greatest good for the greatest number. In short, conservation is education practically applied, and is the care of everyone interested in wild life preservation or better hunting and fishing.

Preserving Trout Streams

The scheme of Nature for the perpetuation of wild life is complete and brooks no interference. Natural history records and conservation data show clearly that when man unduly interferes with wild life environment, and the food necessary to sustain that life, perpetuation is imperilled. It is obvious that conservationists recognize that fact, for the programme of today has as one of its chief features restoration of environment.

The Province of Ontario has been called a fisherman's paradise. Its watersheds and waterways are so numerous as to suggest unlimited resources and unsurpassed angling facilities. To a large extent this expectation is borne out, but there still remains the fact that where environmental conditions have been interfered with detrimental changes have taken place. This is particularly true where shelter, in the form of trees, shrubs or vegetation on our streams or the watersheds they drain, has been destroyed. The open stream makes fishing easy, but seriously reduces the chances of getting good fishing. It is necessary for us, as fishermen, to realize that we must be prepared to sacrifice the ease with which we may fish an open stream, for the more difficult, but more lasting fishing in a stream provided with adequate brush and shelter along its banks and sufficient cover in the stream itself, if the present policy of re-stocking is to be completely successful.

Seasonal floods and summer drought have reduced the number of good trout streams in the southern part of the Province. Suggested reasons for this have been mentioned in a previous article. Suffice it to say here that clear, cool water is essential for the development of speckled trout. The springs and creeks which feed the streams are usually fresh and cool. Nature has provided brush and vegetation to afford shade while these tributary waters are concentrating on the main stream. Shade is vital to them, for, under normal conditions, the main stream will reflect the temperatures of the various tributaries which flow into it. Shade is also vital for another reason. Trout from the main stream go up the creeks and tributary waters to spawn. Here the fry will hatch and remain until they have attained the fingerling stage when they will probably find their way into the main stream. At this stage of their life insects, which supply a large measure of their food requirements are continually dropping on the surface of the water from the overhanging foliage.

The small brook and the tiny creek, almost lost in a fairyland of overhanging vegetation, are not only feeders of the ideal kind, but are also natural spawning grounds, replete with all the conditions which make for successful reproduction. Without shade, however, the conditions would be completely reversed. The rays of the sun, penetrating the water, would warm it, and its value as a low temperature feeder of the main stream would be destroyed. The same conditions would lessen its usefulness as a spawning ground, for lack of cover would mean less protection and less food. As a sequence the fish in such waters would be small, their development being retarded by unnatural conditions.

To the fisherman it must be obvious that open streams, which otherwise would be ideal trout streams, become warm and sluggish when the protecting shade has been destroyed. Trout require cool, active waters, and will not thrive where the temperature of the water is high.

This brings us to the point of our discussion, namely, "What can the sportsman do to preserve and protect the available waters?" Knowing that the Grey and Bruce Fish and Game Protective Association had undertaken the task of re-establishing shade trees along the many streams within its district, we wrote to Dr. N. K. Douglas, the President, asking him to give us some idea of the work they had accomplished and the results experienced. His reply follows:

"Your letter re willow and poplar plantings to hand, and am enclosing a few notes under the following headings:

- Where indicated
- Purpose and expected results
- Degree of success
- Some suggestions from our experience.

"Plantings of the quick-growing Carolina Poplar or Willows are indicated where a stream rising from a fair spring is denuded of trees over considerable of its length, allowing over-heating, excessive evaporation from sun and wind, slower current from reduced water supply, collections of silt and clogging, lack of feed, lack of protection from fish enemies and other unnatural conditions.

"To illustrate the purpose and expected results, I would cite the case of the Sydenham River, which flows into Owen Sound Bay. It is fed by some wonderful springs at its source and for some distance down. The large springs which supply the Sullivan Fish Hatchery, complete probably an all-year steady spring supply of 10,000 gals. per minute at a maximum temperature of 48° F. From the hatchery to Inglis Falls, a distance of some 12 miles, the river flows through fairly flat land, mostly denuded of trees. In warm weather the temperature at Inglis' Falls rises to 76° F., some degrees too hot for speckled trout, and the other objectionable features mentioned before are noticed.

"To treat this condition, we planned to plant Carolina Poplars and Willows on both banks where denuded areas occurred. We expected the normal growth from these trees of from 12 to 15 feet in 3 years, the resultant protection from sun and wind would reduce the maximum temperature at least 12° F., making a high mark of 64° F. This is ideal for speckled trout. Contrary to some opinions, roots or other conditions attending this tree growth do not clog the stream, rather by preserving more water flow through minimizing evaporation they allow removal of silt and deepening of the channel. This, of course, lessens flooding, because of easier run off. It will be noticed that this treatment is solely to take care of present spring flow, and keep it in its best condition. Efforts to increase the flow or restore the flow at the springs must be dealt with by promotion of better forest and swamp conditions further afield.

"Our results were far from perfect, due to faulty technique in planting, and from these observations we are able to give some good advice, as follows: Do not depend on the common idea that you can stick a willow or poplar cutting in any place and it will grow; you may be competing with grass roots or other vegetation, or the wet area of spring planting may become parched and cracked. Do not try to plant too many at once. Better

plant fewer, rooted trees, than many cuttings. Consult and abide by the advice of the expert foresters of the Department of Lands and Forests. If your results are spotty, don't give up. Find out the cause and try again. The ultimate results will be well worth while. That is what we are doing this year with 3,000 rooted trees in place of 17,000 cuttings, in the places where the cuttings failed to grow."

Drive Carefully

The common use of the automobile, and the speed with which we travel the highways, has created new hazards for wild life, as well as an element of danger for the unwary driver. Several incidents have been reported lately of collisions between deer and cars on the highways. One news item that came to our attention recently records the fact that an automobile with damaged headlight and fenders was mute evidence of a collision between the car and six deer on a main highway in the southwestern part of the Province. The driver was returning to his home when the animals jumped over a fence and ditch and crashed into his car before he could stop the vehicle. Fortunately no one was injured and the deer were able to scamper off. It is unusual to find so many deer crossing the road at the same time, and just at the moment when the car happened to be passing, but, when startled, these nimble-footed animals will leap obstructions at a speed which takes no stock of hazards, human or material.

Another paragraph has this to say regarding conditions on one U.S. Highway. "Collisions between deer and cars along the main highways at night, is a sample of the many new problems which have recently developed. During the summer and fall of 1929, along one twenty-five mile stretch of highway in the Upper Peninsula, the Department had record of sixty-nine such collisions which resulted in the death of deer, and, of course, in much damage to cars and danger to travellers." It was thought the deer were attracted to the roadway by the salt used to prevent dust. Officers thereupon put out one thousand pounds of block salt at points well back from the road, hoping that the deer would use this and stay away from the danger zone. As only eight deer were killed the following year, it is evident the protective measures proved effective.

The modern wire fence is also a source of danger to the deer which roam our forests and fields. Within the past year several deer have been reported killed through colliding with these obstructions, which are more or less invisible to them at night. A fine buck deer crashed a fence in Erin Township recently and broke its neck, while a similar incident occurred in Perth County.

Deer, of course, are not the only species of wild life that suffer from modern highway travel. Pheasants, rabbits, squirrels, etc., frequently fall prey to the speed of the automobile. The same caution with regard to the protection of human life should be exercised with regard to wild life on the highway. Drive carefully. Wild life cannot cope with the speed of the modern automobile.

Concerning the Sucker

The complex system of inter-relationship which exists between the species, and the lack of definite knowledge in connection therewith, is emphasized in the general opinion which prevails in connection with the sucker. It is the common idea that this fish is responsible for a great deal of destruction in the propagation of other species of desirable game fish. "If we could only clean out the suckers there would be lots of fishing in the lake", says the over-optimistic angler from the superficial knowledge he possesses of the natural actions of this particular fish. Scientific investigation does not bear out this suggestion. The sucker may have no place in the recreational programme of the sportsman, but at least it is not guilty of some of the charges levelled against it, and it serves a useful purpose as fodder for the popular game fish. Let us hear the evidence in his favour as recorded by the biologists.

In the spring of 1928 an assistant biologist was sent to the Georgian Bay by the Department, and among other assignments was asked to investigate and report on the inter-relationship between the sucker and the pickerel. For some time previous to the spring of 1928 reports were being received by the Department from different sources in regard to the supposed spawn-eating habits of the sucker (*Catostomus Commersonii*). Popularly the sucker is supposed to be a spawn-eater. It is one of these statements, or beliefs, that seem to be told and repeated without any basis of fact.

The biologist camped at Lake McRae, near Honey Harbor, from May 6th to May 24th. The outlet of the lake is a stretch of rapids that make an ideal spawning-ground for pickerel and suckers. A number of suckers and pickerel were taken and the stomach contents examined microscopically. The fish were taken over the whole period, only a few being caught at a time.

The suckers and the pickerel both spawned on the same area. Sometimes they intermingled, but usually the pickerel spawned in water from 3 to 5 feet in depth, while the sucker sought out a very much shallower place. In some cases the water was so shallow that the back of the fish was exposed to the air.

In the examination of the stomach contents, the fish were taken while on the rapids and opened. Altogether, about 50 fish of both species were opened, and no food was found. This appears to show that the sucker and the pickerel do not eat while spawning. The data was obtained from too small a number of fish to be absolutely conclusive, but from the results known it would seem as though the suckers were not guilty of spawn eating.

A statement from a bulletin of the Bureau of Fisheries on "Development, growth and food habits of the white sucker, *Catostomus Commersonii* Lesueur" by N. H. Stewart, is also of interest on this subject. It reads as follows: "The sucker has been reported as a spawn-eater, devouring the eggs of the log perch. It has been reported as eating small fishes and fish eggs. In November 1922, twenty 6-8" suckers were collected directly over the newly-made nests of brook trout, where eggs were doubtless abundant in the gravel. As not a single fish egg was found in these or in over 200 other sucker stomachs examined, it seems safe to assume that fish eggs are rarely taken by this species."

From an address by Thaddeus Surber, Biologist and Superintendent of Fish Propagation for Minnesota, we cull the following: "The wanton destruction of suckers and other native, so-called 'rough fishes' has sadly reduced one of the principal sources of food supply for our adult pike and bass. The old theory that suckers did enormous damage to pike spawn is as ridiculous as it is untrue, because the sucker, at the season of the year when pike spawning is at its height, consumes no food, while the ability of the black basses to guard their nests from encroachment is well enough established to render the charge as affecting it ridiculous. At the season of the year when trout eggs are developing on their spawning beds, suckers are usually far removed, having retired to the deeper pools far below trout waters."

It is obvious from these statements that, while the sucker, because of its abundance, must be kept under control, it is not the unbridled predator it is frequently represented to be.

Get Back to Nature

The holiday season will soon be upon us, and the question of where to go and what to do looms large in the calendar of pre-holiday preparations. It is important that the vacation period should, as far as possible, afford a complete change, or at least that it should offer adequate relaxation, to build up the body and refresh the mental faculties. Such rest and refreshment demands the peace and quiet which is to be found only where Nature reigns supreme and the artificiality of man has not permeated. The Editorial from Hunting and Fishing which we produce herewith contains an excellent exposition of the conditions which make such a holiday desirable:

"Each succeeding generation of people invariably gets the idea that their problems of life are more complex and troublesome than those of their predecessors. For all we might profit by the philosophy of the rustic who said he had seen a pile of trouble in his day, but added that most of it never happened, there is no question that these few past years of depression and social upheaval have tried men's souls as has no other period within the memory of the living. The average man who has been rubbing shoulders with the disheartened is bound to have his nerves pretty well frayed.

But there are other causes for the mental confusion and lowered physical conditions than the worries over the present political, social and economic problems. Our mode of life has been geared up faster than the human make-up has been adjusted to keep pace with it. In a single generation the quiet of both city and rural life has been lost in the roar of automobile traffic and the drone of the airplane. The tranquillity of the home has disappeared in the incessant blare of the phonograph and the radio. The senses of hearing and sight are being overtaxed, and the hours of composure, in which the average person can partly recuperate from the turmoil and excitement of existence, have grown steadily less.

It is quite possible that the human constitution eventually can adjust itself to these new conditions, but it has not done so yet. Especially in the centres of population, people are suffering from too much of everything, so to speak. What they need are periods of peace and quiet, when mind and body can find relief, if but for a short time, from their tension.

If we were to offer a prescription that could be guaranteed to heal the ills of thousands whom complex, modern civilization is overwhelming, that prescription could be written in the four words: 'Get back to Nature'. For the one who is confused of mind and trembling of muscle, there is a little point on a wilderness lake, out of hearing of the man-made din of life, where the only sounds are the sighing of the breeze in the pines and the lapping of the water on the shore; where the only sights are the scenes of nature that were designed in the beginning to fit man's sense of peace.

We hear men say, 'Oh, how I would like to get away from it all.' So they go to the beach where the crowd seethes by day and the dance music squalls by night. They do not ease up; they just think they do, which may help some.

No, the real rest cure lies beyond the horizon of high-tension civilization, and there alone is to be found the rest that so many world-weary people need today.

This is vacation time, the season of the year in which all those who can are expected to break monotonous programmes of everyday life with some change of scene and interest that will prepare them for another fifty weeks of work. We recommend a fly rod, a tent, a canoe, and the little point on the wilderness lake as the ingredients of a general prescription that will do everybody good."

The Domestic Problems of the Black Bass

The domestic arrangements of the small mouth black bass are, perhaps, the most interesting of the game fish species. The male bass is more or less a "henpecked" husband. To him is entrusted all the arrangements for preparing the love nest and taking care of the offspring until such time as they are able to forage for themselves. In late May or early June, depending on the temperature of the water, this voracious, yet kindly sire, leads a female bass to the nest he has provided for her. For several days prior to this he has had a busy time preparing for this climax to the spawning episode. He has chosen a suitable spot in shallow water where the bottom is of coarse gravel. With inordinate care he has laboriously removed all foreign matter, then hovered over the spot and, using his tail and fins like a carpet sweeper, has brushed the pebbles clear of all sediment, until the hollow gravel bowl which has resulted shines like a piece of polished marble. It is a painstaking process, but Dolomieu has aristocratic tastes as befits his regal reputation of being a princely fighter, and nothing is too good for the lady he leads to his personally designed and constructed home. The female, however, does not join him on any particular day, but waits until the temperature of the water is reasonably high (61° to 65°). When conditions are right the male spends little time in finding a mate. The ceremony is a process of Nature which requires little formality, and so he may be observed returning to the nest with a female of equal girth to his own, her size accentuated by the eggs she is about to deposit. As the eggs are intermittently dropped by the female they cling to the well-cleaned surface of the nest. During this process the male bass hovers around, and as the eggs are extruded by the female he fertilizes them with deposits of milt. Finally,

the whole spawning operation being completed, the lady of his choice swims away and leaves the male a domestic heritage of probably 2,500 eggs to care for. It looks like a hopeless task, but Dolomieu is endowed with a fighting spirit, and fidelity to his task is a strong characteristic. Faithfully he stands guard over the nest and keeps off all fish and other enemies that would destroy the eggs or young fish. His attitude is one of extreme militancy. He will strike like a flash at anything which approaches the nest, in fact his very appearance is one of belligerency. In addition to guarding the nest, he also performs the task of fanning the nest with his fins, an operation which helps to keep the water around the eggs fresh and pure. After eight days or so the eggs are hatched, and the little fish, weighted down with the yolk sac which is attached to their body, sink down into the crevices between the stones, and there remain for about two weeks, gathering strength by absorbing the food from the sac with which Nature provided them. All this time the faithful sire has guarded his offspring. No matter how large or how small the enemy that approached his bed he would charge it savagely, the very viciousness of his attack proving effective.

As the young fish gain strength they begin to move about, exploring their surroundings and returning to the nest at nightfall. About this time the male leaves the nest, and the young fry are left to their own resources.

Such is the story of the parental devotion of the male black bass for his motherless family. Unfortunately this record of paternal domesticity is marred by the inherent cannibalistic tendencies of the species. When the bass forsakes his nest he appears to forget all about the young, and is just as liable to gobble them up the first time he meets them, to satisfy his voracious appetite. In the interest of conservation it is necessary to add this plea. Don't take the bass while he is guarding his nest. You not only take an unsportsmanlike advantage of him, but his demise probably means the destruction of hundreds of small fish too immature to take care of themselves.

Know Your Bass

A well-known sporting magazine which sponsors an annual prize fishing contest for the largest fish caught in a variety of different classes has had to change its regulations somewhat as applied to black bass because, as it states, "Often in the past we have received entries in the Small-mouth class which, on careful examination, turned out to be Large-mouth bass". "These entries," it continues, "are usually made through ignorance on the part of the contestants and, on enquiry, we have found that surprisingly few fishermen know the simple and definite rules for identifying the two species." Our own observations lead us to believe that a great deal of confusion does exist as to the identity of the two species, particularly among the less experienced anglers. and so we offer, briefly, certain characteristic differences which will serve to distinguish the two.

There are three methods of identifying the species:

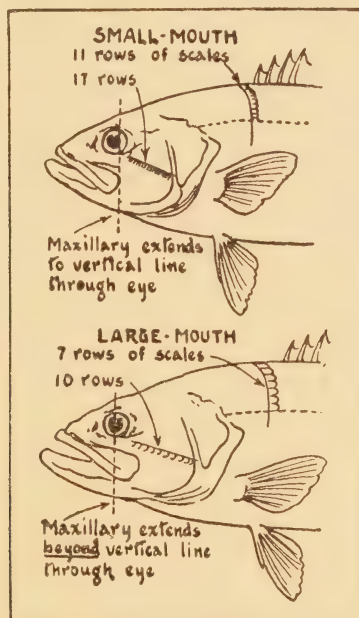
1. The colour scheme.
2. The size of the mouth.
3. The scales.

The small-mouth is a golden green with a bronze lustre, but is blotched with darker spots or short, vertical bars. The large-mouth is dark green above with a lighter or silvery tinge below. Unlike the small-mouth, however, it is not blotched, but has a blackish stripe along the side from the head to the tail. These markings are quite definite on small fish but are liable to have changed on the larger specimens, and as a consequence, taken alone, this method of identification is not reliable.

The size of the mouth is the outstanding difference between the two species and is the basis upon which they have been named. Briefly stated the upper jaw of the small-mouth extends only to a vertical line drawn through the eye, while the jaw of the large-mouth extends well beyond this vertical line. This observation should be made while the mouth of the bass is closed, or nearly so.

Probably the most positive method of identification is the scales. A comparison of the two fish shows that the scales on the large-mouth are larger than those on the small mouth, and as a consequence there are fewer rows of them on certain parts of the fish. This difference will be observed on the cheek and from the median line to the middle of the back. On the cheek of the small-mouth there are approximately 17 rows of scales, while on the large-mouth the number of rows is approximately 10.

A study of these three characteristics will leave no doubt as to the identity of the bass.



(Courtesy of "Field and Stream")

No Change in Opening of Bass Season

The Department has had many enquiries recently regarding any proposed change in the opening of the bass season, and numerous requests to open the season prior to July 1st. Two years ago, in order to enable the public to enjoy bass fishing over a holiday week-end, the opening date was advanced from Monday to the preceding Saturday. This move proved so popular that, acceding to numerous requests, the season was again advanced a day or two last year. This is doubtless the reason for the present enquiries.

In most of the waters of the Province the hatching period is during the month of June, the dates varying with the temperature of the water. Early in June of this year a number of bass were transferred from certain waters where the temperature is higher than the average for Ontario generally, and it was noted that they had not yet spawned. Opening the season prior to July 1st is liable to take toll of the male bass while still guarding his nest, with a resultant loss of young fish through destruction by other predatory fish.

Open and closed seasons are framed for the benefit of the sportsman and not with any idea of curtailing his pleasure. While the Department is particularly anxious to accommodate sportsmen and those catering to the tourist business, it is felt that the interests of all concerned will be best served by adhering to the prescribed opening dates.

Signs of the Times

Notwithstanding that the season of 1936 was a peak year for angling, as reflected in the number of non-resident licenses sold, this year promises to surpass even that. To date the records show a much larger demand for licenses than at the corresponding period last year. This is an interesting sign. It suggests not only that prosperity has returned but also that more people than ever are turning to fishing for relaxation and pleasure. Reports to date are to the effect that fish are plentiful in most waters and excellent catches have been obtained. The tourist is evidently finding out what the resident fisherman already knows, that as a result of the intensive stocking of the past few years, Ontario waters, like economic conditions, keep on improving, despite the intensity with which they are being fished.

This promises to be a record year for tourists. Enquiries already received for information far surpass those of last year. The economic possibilities of this seasonal business loom larger than ever before, and we believe the people of the Province are becoming increasingly conscious of the necessity for conserving and continually renewing the fish and game resources which add so much to the attractiveness of the Province as a vacation resort. That this phase of the matter is receiving the attention of the Department is evidenced by the fact that two new hatcheries have recently been built and are now operating, one at Chatsworth, the other at North Bay. Enlargement of the rearing ponds at Ingersoll was completed last fall, while work has been started on the bass ponds on Manitoulin Island. In addition, use has been made of four ponds belonging to the Forestry Branch Station at Midhurst. With these extra facilities more and larger fish are available for stocking the waters of the Province.

Speaking of the increasing numbers of people who are taking up angling, have you noticed the large numbers of women who now patrol the lakes and streams with rod and reel? The wife of the golfer may be a "golf widow", but the wife of the angler refuses to be left at home when the fishing trip is being planned. First prize in a recent competition for the largest speckled trout caught on opening day went to a woman. It was also a woman who caught and landed the fine sturgeon which was on display in a local sporting goods store a few days ago.

The Controlled Hunting System

In last month's issue of the Bulletin we announced that the Department was working on a scheme to develop certain game management areas in the various counties where pheasants are available. This idea was not the result of any particular knowledge of successful accomplishment elsewhere along just the same lines, but was conceived as a plan suitable for the conditions as found in the Province. By a strange coincidence, however, a pamphlet came to the Department today—June 7th—describing the arrangements and general results of a somewhat similar plan for controlled hunting and game management in Northwestern Ohio. Typical of the plan is what is known as "The Wood County Controlled-Hunting System". It began its development in 1930 as a defence against trespassing abuses during the hunting season, and notification of the change in hunting privileges was given the hunters by the following notice issued by the Plain Church Game Protective Association of Wood County. It is worth repeating because it embodies the chief causes for dissatisfaction with the present hunting arrangements.

"As the hunting season approaches," says the notice, "the anxiety of landowners increases. It is a deplorable and well-known fact that many who are otherwise law-abiding citizens become outlaws when out hunting. They kill our quail, hen pheasants, poultry and sometimes our livestock, destroy our fences and utterly disregard the game laws by trespassing upon our land without permission. Since these laws are so flagrantly violated by so many unscrupulous hunters, therefore, we, as farmers, have met and organized ourselves into an association." The effect of that organization is reflected in the conditions now prevailing in the area. It functions somewhat as follows: The majority of the landowners of a township (or part of a township) form a game protective association. Hunting is open to association members only. Landowners, tenants and their children in the area pay 25 cents for a hunting permit. Township residents who do not own land pay 50 cents for membership in the Association. Non-residents become members of the Association and are entitled to hunting privileges by purchasing a special permit tag at prices ranging from \$2.00 to \$3.50, depending on the size of the game crop. A limit of 200 to 350 outsider's permits are sold (about 2 for each 50 acres). Purchase of non-resident tag entitles the holder to hunt on all of the association lands. Tag must be worn on the hunting coat. General information about the permit holder is recorded, including name, description, residence, and state license hunting number.

The landowners' interests are protected by forbidding (a) hunting within 500 feet of any building or in standing corn where a team is at work, (b) destruction of fences or other property, and (c) killing or shooting at protected game. Violation of these regulations results in revoking the permit and in prosecution.

The Association, through its officers, takes care of all arrangements. These include signing up of the landowners, posting refuges and closed areas, arranging the necessary printing and handling the issuing of permits, etc.

The advantages of this controlled-hunting system are briefly as follows:

1. There is an orderly harvest of the surplus crop each year.
2. Law violations are minimized because the poachers avoid controlled hunting areas.
3. Property interests of landowners are protected by the elimination of trespassing abuses.
4. An adequate brood stock is preserved.
5. A larger pheasant yield is possible and a given area provides good hunting for more hunters, not less.
6. Landowners regard larger game crops as an asset, not as a liability.
7. Landowners modify agricultural operations in the direction of pheasant management.
8. From 65 to 95 per cent of the farmer-landowners are themselves hunters, and so view game production from both the farmer's and sportsmen's viewpoints.
9. Ideal farmer-sportsmen relationships are made possible.
10. The non-resident hunter is satisfied because he is assured of good hunting close to his home, thus saving time and expense, and in addition there is no trespass embarrassment.

According to the Bulletin a number of Townships each collect \$500 to \$1,000 a year from fees. This income is expended in various ways, such as printing, posting of lands, and wages to part-time enforcement officers. Some Associations use a portion of the income to promote two social events, one before and one after the shoot. These are important in the administration of the system, particularly in smoothing out differences and in promoting community interest in the plan. A typical distribution of the unexpended balance is as follows: One-sixth to the Township School, one-sixth to the Township Church, and four-sixths prorated to the landowners on an acreage basis. The latter takes care of any damage to fences or crops by hunters, or corn consumption by pheasants.

This scheme, as will be seen from material published elsewhere in this issue, is somewhat similar to that contemplated for Ontario, and it is anticipated that equally satisfactory results will follow the adoption of the plan here.

Departmental Activities

Additional protection during the spawning season for pickerel and maskinonge was again widely undertaken by the Department during the recent run of these game fish. For a period averaging almost two weeks a temporary force of 75 men was engaged patrolling the spawning grounds

to prevent illegal taking of the fish while they were concentrated in the shallow waters where the eggs are deposited. In the case of pickerel this concentration is extremely heavy and the fish are up-stream in such numbers that the unscrupulous poacher can do a great deal of destruction unless restrained by effective protective measures. The Kawartha Lakes, Rice Lake and the Rideau Lakes, because of the large number of waterways involved, had the largest number of special officers. Other areas which were specially patrolled during this period were Hastings County, Holland Landing, Lanark County, the Severn System, Muskoka, Parry Sound and North Bay Districts, and sections of N. W. Ontario.

* * * *

The pickerel, because of its fine flavour and food value, and the fact that it is available six weeks before the bass-muskie season opens, has become a favourite with the angler. That the waters of the Province are well stocked with this species is due to the protective measures in force and the artificial propagation carried on in the fish hatcheries. This season the hatcheries are handling over 362 millions of pickerel eggs, and the distribution of fry will be completed within the next week or two.

* * * *

The Department deplores the fact that it is necessary to prosecute in order to obtain enforcement of the Game and Fisheries Laws. It is hoped that through education, an enlightened public opinion, and a general knowledge of the value of our resources, the lawbreaker will become so unpopular that his depredations will be considerably reduced. In the meantime, however, the poacher, the unscrupulous trapper, and the petty law-breaker, still keep the enforcement officers busy. During the month of May convictions for infringements of the Act numbered 148. In connection with these convictions some 220 seizures of equipment, pelts, etc., were made. These confiscated articles are sold by public auction, or otherwise disposed of according to the provisions of the Act.

Many of the convictions were in regard to the illegal taking of beaver. For some weeks the enforcement officers have been waging a campaign to stamp out the unlawful destruction of this national fur bearer. Heavy penalties for the illegal possession of beaver pelts have been imposed by the courts, the fines ranging from a minimum of \$20.00 for one pelt to as high as almost \$800.00, with costs in addition. Sample penalties taken from the May records are \$120.00, \$180.00, \$220.00, \$260.00, \$620.00, \$788.00. In addition to the penalties the pelts were confiscated. It is hoped that the activities in this connection and the penalties imposed will have a salutary effect on the unscrupulous trapper and fur buyer.

* * * *

As further evidence of the fact that the enforcement officers are relentless in their efforts to stamp out illegal practices, we record herewith the story of the successful running down of three poachers responsible for the unlawful taking of moose in the Parry Sound district last Fall. It emphasizes the fact that the lawbreaker is never safe, because long after the offence has occurred the Overseers may develop the case and take action. In this instance more than seven months elapsed from the date of the offence until the culprits were convicted.

Overseer Skuce of Powassan had heard rumours that several moose had been illegally killed in his district last fall. He quietly investigated these reports but could get no definite evidence. With the assistance of Overseer MacNaughtan, of Parry Sound, a complete search of the area where the killings were alleged to have taken place was made. "After many disappointments," to quote from the report of the officer, "we finally located the paunches and one head." From that point it was a matter of interviews and searches, as a result of which suspicion fell on three men. One of the men, when confronted with the evidence obtained, made a complete admission of his guilt to Overseer Skuce, and involved the other two in his declaration. Proceedings were immediately instigated, and on June 8th they were convicted before the proper court and fined \$200.00 and costs. We congratulate the officers concerned on their effective work.

* * * *

The work of establishing preserve areas for restricted hunting is proceeding very satisfactorily. The idea has made a strong appeal to the landowners from the standpoint of co-operation with the sportsman, and organized protection. The regulations under which these restricted areas are being organized are as follows:

- (1) That the lands (which will be defined) be set aside under provision of the Game and Fisheries Act and devoted to the propagation of upland game birds, particularly pheasants. (Note—signs for erection on the properties contained in such areas to be provided by the Game and Fisheries Department and the landowners to be responsible for posting the same.
- (2) Shooting to be prohibited except as follows:
 - (a) Pheasants on days to be designated.
 - (b) Jack-rabbits between December 1st and February 28th, next following, where it is established that the spread of these animals ought to be controlled on any such area.
- (3) Shooting privileges available only to those who purchase special hunting permit (in addition to any hunting license required under the Game and Fisheries Act), except in the case of rural residents in each specific area, and where such exception is recommended to the Department by the proper organization. Such exception would in no way be applicable to residents of urban municipalities within any such area.
- (4) Special hunting permits referred to in clause 3 shall be issued by the controlling organization (see clause 6) of each area, or Township Council, as the case may be. The funds derived from the sale of such special hunting permits to go direct to the landowners or to the Township Councils.
- (5) Department of Game and Fisheries arranges to provide the shooting regulations which will govern, such as open days for pheasant shooting, limits of catch, fees for special hunting permits as recommended by the controlling organization in each case, jack-rabbit shooting and any other conditions to be complied with, particularly by the hunters in the matter of securing and displaying the special hunting permits required.

- (6) Set up a Controlling Organization in each case, e.g., President, Secretary and advisory boards; or if desirable in the case of a Township, the Municipal Council.
- (7) The Department of Game and Fisheries will agree to supply as many as possible of both (pheasant) eggs and live birds from available stock to assist in keeping up the supply of birds on such areas.

* * * *

The various provisions of the Fisheries Regulations which limit Non-resident Anglers to the exportation of only one day's catch of fish will not be enforced during the present year except in the case of Maskinonge. The provision in this last-mentioned case will be effective, and the exportation by Non-resident anglers of only one day's catch of this species will be permitted. So far as other species are concerned the exportation of two days' catch as provided in recent years will be permitted.

* * * *

With Pen and Scissors

(By J. M.)

PROTECT FISH AND GAME BY PREVENTING FOREST FIRES.

The warning is of tremendous importance at all times, and should be the first thought of every sportsman and bushman. Most people realize how fire threatens the birds and animals in forest and field, but at first thought it is not quite so evident what effect it has on the fish in our streams. The fisherman, however, has just as much at stake as the hunter or Nature lover, and probably loses just as heavily. When the fire has burned itself out, or providential rains have smothered it, charred stumps and grey ashes remain. Rain falls and washes this residue into the stream. It is more harmful than silt, for it infiltrates the water with an alkali sediment which makes trout life impossible. Thus the fish in our streams may also become the victims of fire.

* * * *

Apparently "the limit" is to a certain type of embryo sportsman what "par" is to a golfer. Unless he fetches back all the law allows he feels defeated and disgraced. One feels that such limited souls are more to be pitied than scorned. They are missing just exactly all there is in either fishing or hunting. It isn't the kill, but the thrill of giving the game all the best of the odds and then beating it, which makes real sport. There is a certain book that was written years ago, and the dedication runs something like this: "To him to whom the counting of the bag and the sizzling of the pan is the least, I dedicate this book". We think it was a sportsman.

—*Minnesota Waltonian.*

* * * *

When a dog bites a man that is not considered "news", but when a fish bites a dog the story seems worth recording. This one was told us in good faith.

A well-known sportsman was visiting one of our fish hatcheries, accompanied by his dog, a fine spaniel. While he was admiring the parent fish in one of the ponds the dog ventured down to the water to have a drink. His long ears drooped into the water and a hungry, voracious speckled trout immediately snapped at an ear and tenaciously held on. The dog was no more surprised than his master, and both were relieved when the trout was gently persuaded to spare the dog!

It should be noted that these trout are large, domesticated fish used for propagation purposes, that they are artificially fed and used to snapping at food and whatever resembles food thrown into the pond.

* * * *

"Don't forget the kids," says Cliff Dafoe, in the course of his weekly article in the Chatham Daily News. "You know," he continues, "kids are a lot sharper than some of us older fellows are willing to admit. If we can catch and hold their interest in the objects and policies of our sportsmen's organizations we may rest assured that we are actually accomplishing much in the conservation of our priceless wild life resources and, at the same time, building character in both them and ourselves. 'Don't forget the kids'. If we follow that rule, we'll all be better anglers and hunters and truer sportsmen."

* * * *

This exhortation to remember the kids is very timely. The holiday season is fast approaching and the youngsters will be thrown more than ever in the company of their dads. When it comes to participating in those fishing trips you can't ignore them. Whether your boy learns the ethics of sportsmanship and the art of fishing, or just how to catch fish, will depend upon what interest you take in his development along these lines. He probably doesn't know the legal size limit or limits of catch, and if you ignore them or treat them lightly he will follow your example. Start him off right in the fundamentals and you won't have to worry about his future development.

* * * *

Every fisherman has his own ideas of how to bait a hook with a "dew worm". Some thread the hook from one end of the bait to the other, while others snag the hook wherever they can hold the worm still enough to impale it. However, according to Walton there's a proper way to bait a hook to get best results, so, as a contribution to the success of the bait fishermen we quote the method as explained in "The Complete Angler", that standard work first published by Walton in 1653.

"Suppose it be a big lob-worm, put your hook into him somewhat above the middle, and out again a little below the middle, having so done, draw your worm above the arming of your hook; but note that at the entering of your hook it must not be at the head-end of the worm, but at the tail-end of him, that the point of your hook may come out toward the head-end; and having drawn him above the arming of your hook, then put the point of your hook again into the very head of the worm, till it comes near to the place where the point of the hook first came out; and then draw back that part of the worm that was above the shank or arming of your hook, and so fish with it. And if you mean to fish with two worms, then put the second on before you turn back the hook's head of the first worm; you cannot lose above two or three worms before you attain to what I direct you; and having attained it, you will find it very useful, and thank me for it, for you will run on the ground without tangling." Try this method next time, but don't forget "tail first"!



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

July, 1937

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Editorial Comment

THE wisdom of Nature is unchallenged. Its plan for maintaining a proper balance is both complex and simple. It is complex in the inter-relationship which exists between the species, whether they be insects, mammals, birds or fishes; it is simple in the method of control which it exercises over these species. This control takes the form of predators and prey. The strong dominate the weak, while the ravages of the most prolific are checked by other forms of animate life or natural forces. Birds keep the insects from over-running the earth and dispoiling vegetation and crops; birds are themselves controlled by other predatory birds and animals; while control in the animal world follows the same general procedure. Aquatic life survives and maintains a proper balance through the fecundity with which the various species perpetuate themselves and the resultant food they provide for other predaceous fish and water life. In short, the whole cycle of perpetuation and control is complete in itself, but is ordered and fashioned for a world left undisturbed.

It is obvious that natural conditions have been disturbed in the course of the development of our present social, economic and industrial systems. We have not always been wise in our handling of natural conditions and the things of Nature. Deforestation, drainage, pollution, reduction of habitat, and intensive destruction by man have upset the wise scheme of Nature with regard to wild life, and it therefore becomes necessary for us to readjust our plans to take care of the situation, if we would continue to enjoy to the full the recreational and aesthetic pleasures associated with wild life.

Conservation is the name given to this plan of readjustment. It admits the wisdom of Nature's scheme and places the major responsibility for abundance or otherwise upon Man. It embraces the wise use of our wild life resources, and the scientific development of these resources to meet present and future demands. Its ideals include preservation through protection under natural conditions, propagation, natural and artificial, and restoration as a result of these activities. In addition to these definite responsibilities it urges a return to Nature, where such natural conditions can be restored without interfering with the progress of civilization.

Obviously, it is a worthwhile programme, having in mind the economic importance and recreational value of our wild life resources. Every phase of the activities of the Department of Game and Fisheries has for its objective the realization of these ideals. Your co-operation will ensure success.

Opeongo, Disproves the Rule, But Provides the Fish

We have frequently stressed the complexity of the relationship which exists between the different species of wild life, and how little we know of the life history and environmental conditions which govern that relationship. Scientific theorizing does not always bear out knowledge derived from practical experience. In other words we frequently run across conditions in a certain area or locality which appear to upset our pre-conceived ideas on the subject. Such a situation has been brought to our attention because of the variety of fishing which is available in Lake Opeongo in Algonquin Park.

In the interest of quantity production and good fishing biologists frown on the idea of planting bass and speckled trout in the same waters. Among other things it is argued that the bass would dominate, and wax fat, at the expense of the trout. It is obvious that, from this point of reasoning, there are other less important varieties of fish that might well be used for fodder purposes than expensively raised speckled trout. However, the conditions in Lake Opeongo show that there are exceptions to every rule and that a natural environment is quite capable of upsetting our most advanced theories.

A well-known sportsman recently spent a few days on a fishing trip in the park, and returned quite enthusiastic over the sport he had obtained. Bass, lake trout, and speckled trout, three of our most important game fish, were plentiful. Speckled trout and bass were taking the same fly, while the former were so numerous that two were obtained on the same cast. It was possible to obtain a creel limit of all of these fish in the course of a day's angling, while a cast for speckled trout was just as liable to yield a bass and vice versa.

The situation in this lake, while not unique, is illustrative of the difficulty of a hard and fast rule and the lack of knowledge with regard to prevailing natural conditions. The probability is that the lake is rich in food which would, in some measure, account for the development of all three varieties. On the other hand we believe that under more cramped conditions and the necessity for turning to one another for food the bass would be the most likely to survive in numbers. It should be noted that Opeongo was open to commercial fishing during the war years, and yet today it is a veritable angler's paradise.

The Result of Co-Operative Effort

Summer activities are in full swing. Happy holiday throngs are crowding the beaches and summer resorts, while those who labour in the cities are taking advantage of every opportunity to join their families and friends at camp or cottage. The lakes and streams of the province bear witness to the fact that fishing is one of the most popular means of enjoying this season of relaxation, when those of us who have to work are particularly envious of those who don't.

The variety and quantities of fish available to those who angle in the Province are significant of the attention devoted to this important phase of our natural resources. Reports from almost every district bear witness to the fact that fishing, generally, is excellent. From Muskoka and North Bay districts an Overseer volunteers this information, "The fishing, both lake and speckled trout, has exceeded by far that of any spring season in years". From Kawartha Lakes district comes the report that excellent catches are being made and that muskies are more numerous than ever. Advices from the Bruce Peninsula are to the effect that the bass are biting vigorously all along the Lake Huron shore, while a 27-pound lake trout was landed by a visitor while trolling on the Georgian Bay side of the Peninsula. Lake Erie reports indicate bass plentiful and tourist anglers more numerous than ever.

The Department appreciates the efforts of all those whose assistance makes it possible to conserve the supply and keep the waters stocked, despite the intensive fishing to which they are subjected. Such co-operative effort is essential to the complete success of departmental activities and the results so far are very gratifying.

The Soul of the Sportsman

The finest, as well as the most descriptive and colourful thoughts in the realm of literature are inspired by the outdoors. Here a Master-hand has painted a picture with colours of natural beauty which cannot be transferred to a canvas but which may be imprinted on the mind and hung in the salon of the soul. The panorama of beauty which the sequences of Nature's moving picture present is calculated to sooth our nervous systems, subdue our egotism and restore our optimism. The best things in life have their inspiration in the works of Creation as embodied in Nature and the things of Nature. Health, happiness, character, are of more importance than riches, and these three may be developed by a proper appreciation of all that the outdoors provides.

From an address delivered by Cameron Brooks Reed, as reproduced in the Maryland Conservationist, we offer the following intimate and colourful thoughts. They represent the soul of the sportsman bubbling forth with a deep appreciation of his own good fortune and a renewed zeal for the conservation of the resources which make possible such delightful experiences:

"You never really know a man until you have gone hunting or fishing with him. Out in the open his true character becomes evident, and you learn to admire and love him. When you have tramped the mountains together, and slept together under the stars, and been lost in the woods together with the snow falling fast and night descending rapidly, and have been so fagged out that you could hardly lift your leaden feet and yet cheered each other on until the gleam of the camp lights shone through the darkness, I say, when you have gone through the hardships and joys that fall to the lot of a sportsman, you find that your hearts are bound together with strands that are stronger far than steel cables. There are not many such friends.

You can probably count them on one hand, but the memory of them makes the heart throb faster and makes life richer and fuller.

Unseen trophies are the pictures that we have gathered from forest trail and brookside and seashore to hang in the mind's gallery and to inspire our jaded spirits when life has been unusually commonplace. There are masterpieces of sunsets and cataracts and glimpses of timid wild creatures we have come upon in the depths of the woods—a flight of mallards as they circle in to the decoys; a covey of quail exploding like feathery bombs beneath our feet; a mother grouse pretending her wing is broken in order to lead us away from her hidden chicks; a black bass breaking water as it tries to shake the hook from its jaw; a spotted fawn gazing at us with wonder-filled eyes; a cottontail doubling back on its tracks to fool the hound; a clump of cardinal flowers growing on the bank of a trout stream; a lake fringed with water-lilies, opening their waxen petals and disclosing their hearts of gold at the kiss of the early sunbeams; a colony of beavers repairing their broken dam; the October foliage, like a thousand rainbows tangled in the branches of the trees. One does not have to be a millionaire to own such masterpieces. They are free to those who have eyes to see, and their colour and charm endure throughout the years.

One of the most precious of our trophies is the opportunity to bring our souls in tune with the Infinite and Eternal, in whose likeness and for whose glory we were created. Out under the blue sky one seems to walk in closer companionship with the Deity. His voice is more easily heard there than amidst the roar and shriek and clangor of the city. Across the face of the fields and hills the Creator has written His autobiography, His love of beauty, His wisdom, His power, His concern for humanity and all living things.

I took a day to search for God
And found Him not. But as I trod
By rock ledges, through woods untamed,
Just where a scarlet lily flamed
I saw His footprint in the sod.

Then suddenly all unaware,
Far off in the deep shadows, where
A solitary hermit thrush
Sang through the holy twilight hush,
I heard His voice upon the air.

At last with evening as I turned
Homeward, and thought what I had learned
And all that there was still to probe
I caught the glory of His robe
Where the last fires of sunset burned.

As members of this club, the trophy that we cherish above all others is the privilege of making it possible for those who follow us to enjoy, even to a greater degree than we have, the treasures of Nature. We want our children to have the thrill of catching fish and shooting game, and to reap the benefits of the out-of-doors even as we have. That is why we have this group with a programme for conserving our natural resources. The true sportsman is unselfish and finds his highest joy, not in ruthlessly catching the last fish from the stream, and in slaughtering the last deer and killing the last water-fowl, but in bringing back to their native haunts the wild creatures which swim and fly and run so that generations yet unborn may go forth with rod or gun and dog and bring home a fine set of antlers, or a big fish to adorn the space above the fireplace, but above all, that they may acquire those unseen trophies which are infinitely more valuable than those that come from the shop of the taxidermist—a healthy body, a keen mind, the comradeship of kindred spirits, a knowledge of Nature and her ways, precious memories and a soul in harmony with the Eternal.”

Sh-h! Here Comes the Game Warden

The arrival of the Game Warden on some lake or stream, or at the hunting camp, is frequently the signal for tightening up on sporting activities or the resort to subterfuge to conceal both major and minor illegalities. His presence means law observance and, while this implies better hunting and fishing, yet his absence from the scene is more welcome to certain individuals than his presence. As a matter of fact, however, he is guardian of the wild life and the sportsman's friend. His chief function is to conserve the resources which make possible the sports of hunting and fishing, and to do this he is empowered to act as a referee or umpire to see that those who take part in these particular sports do so according to the rules of the game. No right-thinking person objects to an umpire controlling athletic sports and exacting penalties where the rules are disregarded. Without such supervision the game would probably get out of control and the interest of those concerned would certainly wane. Again, spectators and players are not slow to note infringements of the rules which govern these sport events and to draw the referee's attention to same. In connection with the sports of fishing and hunting, while the conditions are not parallel, there is the same necessity for observance of the rules and the supervision of an arbiter. These sports cannot be indulged in except by the use of the resources which are a common heritage, therefore, the question of “playing the game” according to the rules is of paramount importance, for upon this depends the wise use of these resources. A perpetual supply of fish and game is essential to the continued enjoyment of fishing and hunting; law observance, under the present conservation programme, will ensure this. The Game Warden is authorized to enforce the regulations, but he requires your co-operation in order to make a success of his job.

In this connection we commend the following excerpts from an article by Kenneth Fuller Lee in "Outdoor Nebraska".

"One of the most incomprehensible things imaginable is the attitude of distrust and in cases actual hostility frequently displayed by men who term themselves 'sportsmen' toward the Game Warden.

Your Game Warden has a hard enough time of it. If he is efficient, he makes plenty of enemies. If inefficient, he is damned for being lazy! He is beset on all sides.

And he is the sportsman's best friend! Jackers who slay deer at night after dazzling them with powerful lights, dynamiters who ruin our fishing, poisoners who clean out the fur ahead of the legitimate trapper, seiners who clean out our lakes . . . these classes would quickly put an end to all sport were it not for the Game Wardens and their efforts. They protect the interests of the rank and file of real sportsmen everywhere, and do they receive any thanks for it? In the great majority of cases the answer is an emphatic 'No'!

Poachers and their friends are leagued together against the forces of the law to such an extent that the Warden always labours under a severe handicap. He cannot follow the regular trails and roads, for the telephone notifies everyone of his coming long in advance of his actual arrival.

Outside of the purely legal angle, killing game in closed season is a thoroughly despicable act. If you shoot a deer during the summer, it will not keep long enough to be eaten up; most of it will be wasted anyway. Spring shooting deprives the young of their parents at the time when they are most needed, and one mother grouse, duck or woodcock killed at this time generally means that a dozen or more game birds have been sacrificed needlessly.

As a purely economic proposition, poaching by an individual amounts to sheer, witless stealing from the rest of the great sporting fraternity, stealing which profits no one, and injures everyone, including the poacher himself.

Why not give the Wardens a break! By this I do not mean that you should run to them, 'tattle-tale style', with every minor infringement that comes to your attention. In the interest of fair play, however, do not interfere with any Warden in his attempts to perform his duty. And if you know where netting, dynamiting or jacking is going on, the Warden can be quietly tipped off without your showing in the picture at all.

If our Game is to be protected, every true sportsman should assume a part of the responsibility for its protection in his own interests and those of his law-abiding, sport-loving brothers.

Back up your local Game Warden; he is the barrier against law-breakers, the fence around your private Game Preserve."

A Word to the Wise, or Otherwise

On July 1st, 1936, two men, who ought to have known better, shot a moose in the North Bay District. Besides being illegal it was an extremely foolish thing to do because much of the meat must have spoiled before it could be transported. "The way of the transgressor is hard" however. The Game Warden got wind of it and began his investigation. These investigations are not always easy, but they are generally quite complete. In this case, like the one reported in last month's issue, the wheels of justice ground slowly but effectively. On June 21st, 1937, almost a year after the offence, the poachers were convicted and fined.

There is much of encouragement in these two reported cases. In the first place they show that there is a growing resentment among the public toward the poacher, and increased co-operation with the Game Wardens in running him down.

In the second place they reveal a persistency on the part of the Wardens akin to that of the "Mounties" who, reputedly, always get their man.

And in the third place they reflect the policy of the Department, which is, to be "courteous but firm" in enforcing the regulations. The poacher must go! You can assist in his elimination.

The Chicken Episode

Speaking of the initiative and courtesy of the Overseers and the value of education as a conservation measure, we have pleasure in printing part of a letter from Overseer Sheppard, which tells its own story and points its own moral.

"One day," he writes, "I arrived at a farmer's home at the noon hour. I was pressed to stay to dinner, but warned that I must take pot luck because, 'John' not having been to town owing to bad roads, there was no meat. Eventually it was decided that they would prepare a chicken if I were not in too big a hurry. I assisted John in pursuing and running down the chicken, also in cutting off its head. The good wife disappeared into the kitchen with the bird, leaving John and myself in the barnyard. Now this man lived close to one of our finest trout lakes, and was at that time an inveterate killer of trout during the spawning season. He had about 100 hens, so I said to him, 'Let's kill the whole bunch'. I said it so earnestly he half-believed I was serious, and replied, 'What do you want to do that for'? I answered, 'Why, it's good fun'. He observed that he thought my idea a very crazy one. Right then, he and I went into a huddle over killing lake trout during the spawning season, with nets. Before we had finished the good chicken dinner, we had covered many angles of our conservation needs. I had often talked with this man before, but seemed never able to impress him properly until the chicken episode. His reaction to my simple and direct illustration of the harm that might be accomplished through illegal killing of the parent stock was obviously sincere.

Without a proper understanding of the conditions involved there is little hope of getting such a man interested in conservation through enforcement measures alone. Conviction in such cases frequently breeds antagonism, and if the 'poacher' has nerve enough he becomes spiteful, which means that he is a worse menace than before."

The dissemination of knowledge is a potent factor in the protection and wise use of our fish and game resources. Ignorance and thoughtlessness lead to abuses which, if generally practiced, would result in extinction. The man who sees in the regulations merely an excuse on the part of the Department for restricting his liberties is ripe for some of the Overseer's "chicken killing" philosophy. We commend this "moral suasion" plan to all good sportsmen, with an invitation to do some missionary work when the occasion is opportune. In the meantime the law, unlike the chicken, still has teeth in it!

Debunking Speed Limits

"You can't tell the size of a buck's horns by how loud he snorts" says a quotation from a sports magazine. The same general idea holds good in connection with our estimates of the speed of birds on the wing. You can't gauge the speed by the wingbeats, nor is it a reliable method to assume that because you missed the bird with a certain "lead" it was necessarily going at an excessive speed. "Duck hunters," says a Bulletin issued by the U.S. Department of Agriculture, from which we derive most of the following information, "sometimes declare mallards, pintails, and other waterfowl they miss were travelling 75, 100 or even 150 miles an hour. More likely the birds were flying between 40 and 70 miles an hour."

The speeds recorded in the Bulletin were tabulated from nearly 100 articles and books, and were mostly obtained by the use of Airplanes, Automobiles and Stopwatches. Speeds of 50 to 60 miles an hour have been recorded for mallards, while pintails and canvasbacks have been checked at 65 and 72 miles an hour. It is interesting to note that although the wing surface of the mallard is about 20 per cent greater than that of the swifter canvasback, the latter makes up for its small wings by beating them faster, while the fact that its "streamlining" is more modern probably makes its problem of wind resistance less acute.

Chased by an airplane the Canada Goose could only keep up a speed of 60 miles per hour for a short time. In a light wind it was checked at 44.3. The Ruffed Grouse is credited with the easy speed of 22 miles per hour, although most hunters will admit it gets away to a quick start, while the bobwhite when flushed or frightened has been clocked at 49. Three separate observations of the English Pheasant range the speed from 27 to 38, while another record, which does not give the timing device used, gives a speed of 60 miles per hour. The woodcock meanders around in a leisurely manner observing a speed limit of from 5 to 13 miles per hour, while the mourning dove has established a maximum of 41.

"Duck Hawks," says the Bulletin, "can travel about three times as fast as most ducks and are the fastest flying birds reported. One of these hawks, diving on its victim flew 165 to 180 miles an hour when timed with a stop watch. Diving at a flock of ducks at a velocity of nearly 175 miles an hour, an aviator reports that a hawk, presumably a duck hawk, passed him 'as though the plane was standing still' and struck one of the ducks."

For most species there appears to be a normal flight and an accelerated speed when danger threatens. Ducks, for example, when pressed, increase their speed possibly a third, but geese are able to accelerate very little. Most of the speed flight records indicate the greatest level speed of which birds are capable.

Rapid wingbeats or erratic flight sometimes give a false impression of great speed. It is recorded that a black-headed gull, which has a deliberate wingbeat, almost kept pace with a golden plover, whose rapidly moving wings made it appear much swifter.

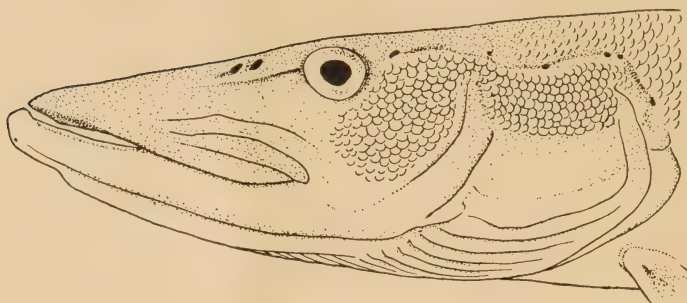
It is necessary to add that no hard and fast rule can be laid down as to bird speeds, because, even for any given species, there is considerable variation to be taken into account such as age, state of plumage and other physical conditions. In addition, the velocity of the wind and other climatic conditions cause variations in speed.

There is a popular idea that birds in migration fly at great altitudes. According to reports from aviators it is exceptional to see any birds more than 5,000 feet above the earth, and that few are seen above 3,000 feet. The indication is that the greater part of migration takes place below 3,000 feet above the earth's surface.

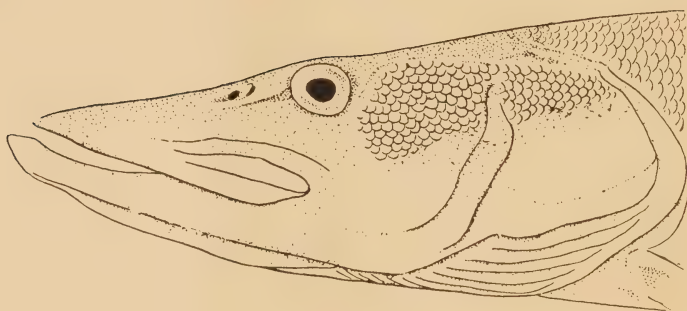
How to Distinguish a Maskinonge from a Pike

The Maskinonge is a favourite game-fish with the angler who glories in the thrill of a vigorous battle with a worthy foe. The immense size frequently attained by this fish makes it attractive to the fisherman, while its fighting characteristics lend a great deal of zest to its capture. To thoroughly enjoy the sport of taking maskinonge, however, the tackle used should be reasonably light, so that skill may be pitted against brute strength. The muskie has not the innate cunning of the small mouth, but its rushing and leaping tendencies are a joy to behold, while its weight makes the task of subduing it one requiring care and experience.

The Maskinonge belongs to the Pike Family and, because of its close resemblance to the common pike, the average fisherman has some difficulty in definitely identifying it. This difficulty arises, not so much from any lack of distinguishing characters, but rather from the fact that the differences between the pike and the maskinonge are such as are frequently overlooked. There are two outstanding differences between these two members of the same family, viz., the scales and the colour and markings. In the Maskinonge the upper part of both the cheek and gill-cover is scaly, while the lower half of both is naked. In the Pike the cheek is entirely scaled but the gill-cover is scaled only on the upper part.



HEAD OF PIKE SHOWING CHEEK SCALED OPERCLE NAKED BELOW.



HEAD OF MASKINONGE SHOWING CHEEK AND OPERCLE NAKED BELOW.

Courtesy Royal Ontario Museum of Zoology.

The difference in colour and markings of the two fish is probably the most reliable distinguishing feature. The colouration of the Maskinonge is of a greyish hue with a silvery sheen, and marked with spots or bars of black. The Pike on the other hand has a background colour of bluish or greenish gray with many irregular whitish or yellowish bean-shaped spots fashioned in more or less longitudinal lines. Concisely put, the background of the Maskinonge is light and the markings dark, while in the Pike the background is dark and the markings a much lighter colour.

A simple way to remember the colour scheme of the Maskinonge is by the association of ideas. "Mask" conveys the idea of a dark covering over a white background, as illustrated by a white person wearing a black mask. The Maskinonge has a light background with dark covering lines or spots, in other words, disregarding technical accuracy, white with a dark mask. Reference to the same illustration reminds one that a mask is usually worn on the upper part of the face to cover the eyes. In the maskinonge the scales are confined to the upper half of the cheek and opercle, or gill cover.

Thinking Like a Fish

Have you ever wondered why certain fishermen of your acquaintance could apparently get fish almost any time they cared to try, while you have probably spent hours or even days on the same grounds with little or no success? You have no doubt put it down to fisherman's luck and let it go at that. There is a deeper reason, however. Fishing success is the result of "thinking like a fish", where fish are concerned, only; in a general knowledge of the habits of the species you are interested in, and in regulating your tactics to meet the conditions which reason and knowledge lead you to believe exist at the moment. To think like a fish is merely to anticipate what a fish would be likely to do under certain everyday conditions. For example, during the heat of the day we poor humans would not deliberately remain out in a blazing sun if shade were available, but if we did the result would leave us tired, inert and lacking in any ambition to unduly exert ourselves. The same thing applies to fish. Bass are not to be found during the heat of the day in shallow water exposed to the rays of the sun, and if for any reason they are, they are too inert to trouble with the most tempting bait you can dangle before them. If you were a fish where would you be under such circumstances? You would unquestionably be in the coolest, shadiest spot you could find, conserving your energy until conditions generally became less trying! That's exactly what the bass and the other game fish are doing. During excessive heat therefore, do your fishing in the deep pools where the water is reasonably cool, in the rapids where the constant change and action keeps it cool and active, or in the shade of an overhanging bank, a submerged tree or sunken log. Normal conditions, and this means a reasonable temperature, are just as essential to fish life as to human beings.

By the same process of reasoning it will be obvious that during the cool of the evening and in the early hours of the morning, bass, trout and other

game fish will be found in the shallower water because food is more plentiful in the shallows. Of course there are certain species that are seldom found except in deep water, and yet they, too, prefer the shade of an overhanging ledge of rock to the penetrating rays of the sun.

The question of food is also one to which the experienced fisherman devotes a great deal of attention. The fly fisherman has solved this problem to some extent by equipping himself with a wide variety of flies designed to represent the different natural flies upon which the fish may be feeding at the moment. In the shallows are crabs, frogs, bugs, fleas, minnows, etc. Most of these, in addition to worms, are available to fishermen. If you cannot succeed with one, try another. Your quarry may be "fed up" with minnows and just pining for a nice juicy dew worm or a succulent young frog. In any case he is seldom hungry between meals, so there are certain periods of the day, particularly the late forenoon and early afternoon, when his appetite has generally been appeased, and you might as well go swimming or find a shady spot to rest.

However, the fact that the fish will not even look at the bait you are using is no definite sign that they are not interested in food. An experienced fisherman of our acquaintance tells of being able to take bass from a certain spot almost any time he wanted, while others fishing in the same water would generally go unrewarded. His secret was simple and merely an exemplification of what we have been endeavouring to emphasize. The particular spot he referred to was the water under and around a boom of logs. He discovered that the continual grinding of the logs in the boom loosened the bark and displaced quantities of white grubs, upon which the bass were feeding. Having solved the feeding problem it was a simple matter to get a few grubs and land a few fish.

It is important to note that there is a difference in the procedure when fishing with artificial and natural baits so far as setting the hook is concerned. Directing our thoughts fishwards once more we realize that the first thing we would do if we were a fish and had been fooled with an artificial bait would be to spit it out at once. When a bass, for example, seizes a fly, he is immediately conscious of the deception, and will instantly eject it, unless the fisherman has forestalled this by setting the hook at the moment of seizure. With natural bait it is different. The deception is not evident and so it is accepted and handled in a more leisurely manner. When he finds the bait to be tasty the fish will grab it and invariably swim off with it to avoid other fish. Setting the hook at this time would probably only result in pulling it out of his mouth. When he begins to put a steady strain on the line and increase his speed then is the proper time to set the hook. This is done by a short, snappy upward movement of the tip of the rod. Don't wait, however, until he has hooked himself, by swallowing the bait. He may be a little fellow, and you will want to return him to the water uninjured.

"Pity Is, 'Tis True"!—

We were enjoying a fishing picture the other evening at one of our Protective Association Meetings where we were a guest when the angler occupying the limelight on the screen for the moment caught a small fish, took it off the hook, and tossed it back into the water. Having done so he then proceeded to wash his hands. This action demonstrated the fact that the protective coating covering the fish had adhered to the fisherman's hand and more or less nullified the action of tossing it back into the water again. It was rather a shock to us because we believed that every experienced angler knew and practiced the fundamental rule of wetting the hands before touching any fish of doubtful size. It seems, however, that this simple conservation measure is not given the attention it deserves, either through lack of knowledge or indifference.

The evening following the meeting referred to above we stopped at the garage to talk to a casual acquaintance, and as we conversed a third man known to my friend joined us. He was evidently an enthusiastic fisherman and had some splendid ideas for the protection of our Game Fish, such as using barbless hooks, and so forth. The conversation ultimately came around to the problem of releasing undersized fish, and the enthusiast stressed the need for wetting the hands before handling small fish. Our association with conservation matters was unknown to either of them. To our amazement the casual acquaintance remarked that he "believed" he had read somewhere that you should wet your hands and he "guessed" it was all right. It is appropriate to add that he had just returned from the hardware store after purchasing a supply of hooks to take with him to his summer cottage, where he spends the season fishing almost daily, and yet he "guessed" it was all right to wet the hands, although obviously he had never practiced it.

The constant repetition of the plea to wet the hands before handling undersized fish becomes more or less tiresome, and yet it seems necessary to keep on repeating it until young and old, experienced and inexperienced, learn that it is an important rule having in mind the conservation of our game fish.

Departmental Activities

Activities of the Department this month have been concentrated on the distribution of fish and the liberation of Ring-necked Pheasants.

From the hatcheries and trout-rearing ponds approximately three-quarters of a million yearling speckled trout have been rushed by trucks during the past few weeks to the most suitable waters, and planted with the due care and attention necessary to environmental changes. These trout are, on the average, just a trifle short of legal size, and should be able to take care of themselves against most natural enemies, resulting in a high percentage being available to the angler in the course of another season. The distribution is widespread, being facilitated by the geographical locations of the various hatcheries and rearing ponds.

In addition to speckled trout various other species of the trout family

such as brown trout, rainbow trout, etc., have been planted in large numbers and in suitable waters, while approximately twenty-three and a half millions of lake trout fry and fingerlings have been released in the Great Lakes and inland waterways.

During the month a start was made in the stocking of the new regulated Preserve shooting areas with Ring-necked Pheasants. A survey of the most suitable locations was made, and already some 1,200 young birds have been released in addition to several hundred adult birds. This work will continue for several weeks until each area has received its quota from the available stock.

With Pen and Scissors—J. M.

"Trout water to some of us has become more of a shrine and less of a larder. Whether we catch trout or not is, after all, a minor consideration. Knowledge that they are in the stream, the chance that each cast may end in a spout of spray and the flicker of a leaping fish is all we ask. Such fishing is the pinnacle of angling."—*Minnesota Waltonian*.

* * * * *

Speaking of trout fishing. We were seated in a barber's chair the other evening having the tonsorial artist shear our locks when our attention was drawn to a conversation between a second barber and a customer in the next chair. Said the former, "I like trout fishing, it's great sport to catch a nice ten to twelve inch squaretail, he's a regular fighter." "Gee," answered the other, "I like catching the little fellows, it's great fun, and boy, aren't they sweet"!

It was quite evident the one was a sportsman interested in the art of fishing and the sport to be derived therefrom, the other was just another fisherman getting a kick out of "catching" fish, no matter how small, and apparently seeing no harm in disregarding the regulations to satisfy his epicurean tastes. There's a subtle distinction between the man who goes "fishing" and the man who goes "catching fish". Think it over!

* * * * *

Whether or not snakes swallow their young is, judging by newspaper publicity on the matter, open to grave doubt. That snakes swallow fish we can vouch for. We were intently casting for bass in a small bay, on Lake Huron, one summer, when we heard a gentle splashing in the water. Looking around, we were surprised to see a snake, which we took to be a water snake, swimming ashore with a fish in its mouth. The fish was held horizontally in the mouth of the snake, and being very much alive was flapping its tail, causing the splashing which attracted our attention. We were more or less fascinated by the sight and so quit fishing to watch. The head of the snake was almost completely dwarfed by the size of the fish, which was a bass probably seven inches long. The captor swam ashore with his prize, wiggled up the beach a little piece, coiled up, and prepared to enjoy his meal. In the interest of conservation we probably should have interfered, but the snake had as much right to be fishing as we had. In any case we were anxious to see how such tiny jaws could handle such a large

meal. After several minutes of slow motion juggling on the part of the snake, the fish gradually assumed a vertical position with the head leading the way into the distended jaws. These jaws were so stretched that it appeared as if the snake must choke to death. However, the meal slowly but surely disappeared into the interior regions, causing a large, fish-like bulge as it passed down into the digestive organs.

It was not a new biological discovery, just one of those fascinating incidents one meets with in the great outdoors.

* * * *

Nothing more descriptive of the thrill which one experiences while battling a hard fighting muskie has come to our attention in recent years than the following from the pen of the late Lou Marsh, in the *Toronto Star*. It is typical of his easy style and his sporting ethics:

"Boy, oh boy, what a thrill there is when you see a sudden swish of water away off fifteen or twenty feet from your plug, and you see your muskie hurl himself at the lure like a little submarine going into action. It takes cool nerve to leave that plug there in the path of that rush without trying to take it away from Mister Muskie. And then he hits that plug and feels the gang hooks, breaks the surface with a startled rush, and goes skittering and sliding along the top like a sea flea going around a buoy, to bring up at the end of your line with a tug that bends your rod like a buggy whip—well, you just can't describe it."

* * * *

"Then is when the fun commences. You've got to give and take—give, when he gets bull-headed and rushes, and take, when you have slowed him up with all the pressure your line will stand, and he pauses. And you've got to keep his head up, for if he can get down among the weeds he'll beat you sure. And you've got to watch him and reel in like mad when he takes a notion to race right at you. If he can get a few yards of loose line, a chance to hurl himself right against the line or leap clear of the water with a free line, he's got you licked. He'll break your light line or he'll shake the hooks free—maybe straighten them out."

* * * *

"Muskie fishing is great—a muskie is no fool—it's great to battle one and whip him—but I don't think I'll ever kill another muskie unless he is a big lunker up in the near record class. I'll let him go. Maybe I'll meet him again another day—and he'll beat me."

* * * *

Now you see why we so frequently assert that fishing is one of the finest recreations available to the sportsmen of the Province. It combines excitement and thrills with the health-giving qualities of the outdoors. Conservation will ensure its perpetuation. Your part is to observe the regulations and co-operate with those who are trying to enforce them.

* * * *

For sheer "agonizing" pleasure, give me brook trout fishing when the flies are bad and the mosquitoes are arrayed in skirmishing order. That's the test of a real fisherman. If he can stand that massed attack and still enjoy fishing, he is a dyed in the wool angler. Of course there are certain

evil smelling dopes with which one may smear oneself and enjoy a certain degree of immunity, or one may encase his head in a net and listen to the music without feeling the pin pricks. The other day, however, we were introduced to a new protection, at least it was new to us. It consisted in lathering the exposed parts of the head as well as the hands with carbolic soap and allowing the lather to dry. In our case it was quite effective. We fished the stream for hours without noticing the mosquitoes, which we could hear singing around us. Of course, we prefer to make no rash statements, for the enemy may have been having a rest period with only the scouts patrolling the area, and there were few, if any, black flies. However, try it some time!

* * * *

The Man Who Cleans the Fish

There's one in every group and clan,
A willing, happy-hearted man
Who gets the wood and lights the fires,
First quits his bed and last retires
He makes the coffee, fries the ham,
And opens every jar of jam,
And while a round of cards we play
He cleans the fish we caught that day.

The most of us who fishing go
But little of the burdens know.
We proudly talk in easy chairs
Of rods and reels and lures and snares
And where the speckled beauties lurk.
We love the sport but not the work.

But he knows best what fishing means
Who does the work behind the scenes.
Give him a knife and board and pail
And every fish we catch he'll scale.
While we go in and bathe and dress
He cleans the evening supper mess.

Beside the river's edge he stays
To earn our everlasting praise.
He says "Do anything you wish.
I'll get to work and clean the fish."
Without this kindly useful man
Were he to leave us, few I know,
Again would ever fishing go.

He grants to us the long day's fun
And gladly does the work we shun,
So here's the camp's devoted wish:
Long live the man who cleans the fish.

—Alabama Game and Fish News.



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

August and September, 1937
EXHIBITION NUMBER

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

VOLUME TWO

AUGUST and SEPTEMBER, 1937

NUMBER FOUR

An Invitation to Visitors

Non-residents of the Province who visit us for vacation purposes will, we hope, be agreeably impressed by the courtesy extended by tourist caterers, the enforcement officers and the public in general. This courtesy begins at the border where customs formalities have been reduced to a minimum and the tourist finds it easy to enter a foreign but friendly country. Visitors who have already spent a vacation in the Province will know something of its natural beauties, its splendid highways, its many popular summer resorts, its famous Dionne Quintuplets, and its excellent fishing. To those who have not had an opportunity of participating in the recreational facilities of the Province we extend the hand of welcome and urge you to come and enjoy with us the natural attractions of which we are justly proud.

Many of you will naturally want to fish or hunt and we can assure you that the opportunities afforded for indulging in these recreations are unexcelled. Much information will be found in this issue of the Bulletin concerning the activities of the Department in connection with maintaining the supply of fish and game in field and stream. The results fully justify the efforts being made, the concensus of opinion being that fishing this season has been well up to standard. The variety of game fish available will gladden the heart of the most exacting angler.

Visitors who enjoy big game hunting will find our vast northland with its virgin territory and wide open spaces hard to resist. Deer, moose and bear are to be found in large numbers and provide an incentive for the finest in sport. Guides are available in most sections of the north and it is compulsory for a non-resident hunting moose in the Province under authority of a license to be accompanied by a licensed guide and there shall be not more than two such hunters to each guide. There is a probability that for the coming season regulations may be provided to make compulsory the hiring of a guide by non-residents for all big game hunting in the districts of Kenora and Rainy River.

If you belong to that ever growing class of sportsmen who prefer to hunt with a camera rather than a gun, you will find unlimited scope for your activities. Each year opinion among residents and non-residents is crystalizing in the view that our big game, particularly moose, represents a greater value, as a tourist attraction, alive than it does as the spoil of the chase. It is possible that greater restrictions on moose hunting will be necessary in the Province.

Non-residents are of course required to comply with certain regulations as to licenses, daily limits of catch and export limitations, as well as the usual regulations concerning open and closed seasons. Particulars of these regulations may be had on application to the Department, or through any license issuer or publicity bureau.

A Valuable Asset

The wild life of the Province of Ontario constitutes a resource of tremendous importance and value. It is a heritage of the Crown administered by the Department of Game and Fisheries and the policies which govern the administration of this trust are based on the premise that every citizen has an equity in these resources.

The natural resources of a country are the basis of its national wealth and in evaluating the true worth of our wild life natural resources, it is pertinent to point out that these form a vital part of our economic system. Analyzing this thought we find the following facts:

The fur trade of Canada is closely associated with the development of the country, for the trappers and fur buyers were pioneers in opening up the north and the west. In the Province of Ontario trapping is still extensively carried on. The last available records show that during the year ending March 31, 1936, almost 6,300 trappers were licensed and operating in the Province, while fur dealers contributed \$27,186.00 to Department revenue, showing that the trapper is plentifully supplied with avenues for the disposal of his catch. During the same period royalty to the amount of \$110,884.40 was paid to the Department on furs while the value to the trapper of his season's fur catch is estimated at \$1,906,121.04. This total is made up of 613,057 pelts of fur-bearing animals of various species. In addition to these figures it is pointed out that private fur farmers raised and disposed of 21,318 silver black fox pelts as well as 9,641 mink pelts of an estimated value of \$827,451.11.

It should be noted that in Northern Ontario where the lands are mostly Crown lands, it is the policy to allot a separate area consisting of a township or part of a township to each trapper. While much of the north country is still unsurveyed it is hoped that by next year 80% of the trappers will have their trap lines on a defined zone. Each trapper will then be responsible for taking care of the fur bearing animals in his own area, because his future earnings will depend on his conservation of the supply within the zone.

The Commercial fishing industry of the Province employed some 3,988 men during the year ending March, 1936 and had approximately \$2,986,500 invested in gear and equipment. Revenue from this source amounted to \$2,633,512.

From the economic standpoint however, the greatest worth of our game and fish resources lies in their value as an attraction to tourists. The seasonal influx of visitors from all parts of the world has developed into an industry of major importance and it is estimated that close to 125 millions of dollars will be circulated in the Province by tourists this year. The Province has of

course many attractions but the loadstone which exercises the greatest drawing power is the excellent fishing to be had in our lakes and streams. It will be apparent that the natural resources which are the backbone of such an important industry are of very real economic value.

Again, the importance of bird life as an aid to agriculture is beyond computation. Insect control is essential to crop success. Much of this burden is lifted from the shoulders of the farmers by the migratory and non-migratory birds which are a part of our wild life assets.

From the standpoint of the sportsman this wild life heritage has a recreational value which cannot be measured in terms of dollars and cents. Fishing and hunting are the finest health-giving and recreational sports available to the people of the Province. The incentive which wild life provides for enjoying the great outdoors is of inestimable value in the development of character and good citizenship.

It is obvious from the figures presented and the observations made that our wild life heritage is a trust of great economic and moral worth, and being a common heritage its preservation and wise use is the care of every citizen. How the Department of Game and Fisheries is administering this trust will be detailed herein for the benefit of exhibition visitors who may not be familiar with the extent of these resources or the work involved in conserving them.

Fish Culture

One of the most important duties of the Department is the work of artificial propagation as carried out in the Provincial Hatcheries. Fish Hatcheries are just as necessary to modern fish culture as are the incubators and brooders without which successful poultry raising could not be carried on. Left to the process of nature fish spawn and young fish suffer tremendous losses from natural and unnatural causes, such as flood ravages, silt, the predacious habits of aquatic animals and birds and the voracious appetites of all types of cannibalistic fish. Indeed it is estimated that less than five per cent. of the fry ever reach the adult stage, and when it is remembered that the female fish deposits thousands of eggs, it will be apparent just how large is the loss of the desirable species of game fish under natural open water conditions. The facilities of a modern Fish Hatchery make it possible to eliminate in the egg stage all the losses from the causes referred to, and to hatch ninety to ninety-five per cent. of the spawn. Of course it is not suggested that this large percentage of hatched fish will reach the adult stage, or even survive the fry stage, but so many more fish are produced under the hatchery plan, that it is obvious that a very much higher total will ultimately become the legal prey of the Angler. As more facilities become available for holding over the young fish until they attain a size which will give them greater self protective powers, a still larger number will survive and the cycle of production will be correspondingly greater.

It is clear that good fishing, under modern conditions is not a matter of accident, but is the result of careful thought directed along scientific and

practical lines, with the object of keeping the waters of the Province well stocked with fish. Fish culture experts determine through experimentation the biological data necessary to successful propagation, while the application of this knowledge passes through a great many phases of practical endeavour and regulatory administration.

In keeping with modern practice the Department maintains and operates twenty-one fish hatcheries scattered throughout the Province in such strategic locations as to afford the widest and most convenient distribution of fish having in mind the very extensive water area in the Province. In addition to the hatcheries, eleven trout rearing stations and five rearing locations for black bass are operated. The hatcheries are worked at capacity during the times when spawn from the various species of fish is available, while rearing ponds contain the maximum number of fish.

The following species of fish are raised in the hatcheries or ponds: Lake Trout, Speckled Trout, Brown Trout, Rainbow Trout, Kamloops Trout, Ouananiche, Small-mouthed and large-mouthed Bass, Maskinonge, Pickerel, Whitefish, Perch and Herring. The estimated distribution for the present year for all species amounts to 647,192,175. A detailed summary of this distribution follows:

Fish Planted During 1937

Species	Eggs & Fry	Fingerlings	Yearlings & Adults	Totals
Whitefish	338,683,875			338,683,875
Herring	4,800,000			4,800,000
Lake Trout	6,572,400	17,030,000		23,602,400
Pickerel	266,244,000			266,244,000
Perch	9,150,000			9,150,000
Blue Pickerel.....	1,000,000			1,000,000
Maskinonge	420,700			420,700
S-M Black Bass.....	1,342,000x	100,000x	5,000x	1,447,000
L-M Black Bass.....	140,000x	15,000x		155,000
Speckled Trout.....	10,000	6,000	1,350,000x	1,366,000
Brown Trout.....			101,700x	101,700

Speckled trout and brown trout fingerlings numbering 3,000,000 and 125,000 respectively are being retained and will be planted in future seasons as yearlings or adult fish.

Rainbow Trout.....		104,000	7,000	111,000
Kamloops Trout.....	87,000		13,300	100,300
Atlantic Salmon.....	7,200	3,000x		10,200

647,192,175

x Approximate distribution.

The distribution of fish for restocking the different waters has been greatly facilitated since the advent of the automobile and the general use of trucks for transportation purposes. Many factors enter into the placing of these fish and these are all given consideration before distribution is made. From the Hatcheries the fish are transported in cans and by means of trucks to the various water areas for which they are intended. The actual planting is usually carried out with the assistance of the local Game and Fish Protective Association and under supervision of Departmental Officials. This ensures that the planting will be done in the most approved manner, requiring the equalization of the water temperatures in stream and can before releasing the fish. This precautionary measure prevents shock to the fish through sudden temperature changes and affords them a much better chance of surviving in their new environment. The importance of intensive propagation and distribution will be better understood when it is realized that the water area over which the Department has jurisdiction approximates 80,000 square miles. To keep these waters stocked, in view of the intensive manner in which they are fished is a task of no mean importance. The excellent fishing which still prevails in most waters affords proof that the activities of the Department in this respect are meeting with a large measure of success, and that supplementing the work of nature is an important phase of the Conservation Programme.

Restricted Waters

As an aid to the natural development of game fish in our lakes and streams, and to prevent depletion through overfishing, certain areas in the Province have been set aside for varying periods as closed waters. In these restricted areas all fishing is prohibited. Fortunately our water areas are so extensive that the temporary closing of certain sections of a lake or stream causes little or no hardship to the fisherman, and the results amply justify any inconvenience that may be caused. It is obvious that where fishing is prohibited and protection afforded the natural development will be accelerated. For this reason these closed areas serve as supply bases for self replenishment or for the replenishing of other waters. Where a stream has become more or less depleted and is then stocked with young fish the temporary closing of the area will ensure a maximum development to legal size. This practice is being generally followed wherever possible.

To date some 46 restricted areas have been established as compared with 33 during the same period last year. This is significant as showing the value placed on this phase of the conservation programme. The areas comprise sections of large bodies of water, small lakes, parts of streams and tributary waters. These areas will be found listed in the blue book issued by the Department, while further particulars may be had on application. Each area however, is posted with official "No Fishing" signs.

Game Preserves

In the early history of the Province the game situation presented no particular problem although restrictive laws were in force from quite an

early period. The country was still largely undeveloped and natural conditions extensively prevailed. Deer, Moose and Caribou, the largest of the game animals, were numerous and fairly widespread while fur-bearing animals abounded. The same happy state of affairs obtained with regard to game birds. Unfortunately, for a great many years, game, because of its abundance, was destroyed recklessly and wastefully, aided and abetted by the fact that the sale of certain game was legal.

As the country continued to grow and develop wild life received further set-backs through the destruction of habitat for agricultural purposes and the encroachment of roads, railways and lumbering operations. The advance in transportation methods and the use of more effective weapons of destruction also played a part in the decimation of wild life. For these reasons, in part, the buffalo, the caribou and other species almost suffered extinction, while the deer and game birds were greatly reduced in numbers.

At this point men began to realize that the game resources were not inexhaustible and that unless restrictive measures were tightened and enforced and steps taken to protect and perpetuate the various species, their numbers would be so seriously depleted as to foreshadow extinction.

One of the first measures taken to protect the game in the Province of Ontario was the setting aside of large areas of land known as Provincial Parks. In these parks no hunting or trapping is permitted and the wild life is given a chance to increase and develop under natural conditions and without molestation from man. These protective areas proved so successful that the idea was extended and large areas of Crown Lands in Northern Ontario have been set aside for the same purpose under the Department of Game and Fisheries. These areas are known as Crown Game Preserves, and have the same restrictions as to hunting as the Provincial Parks. At the present time there are 111 Crown Game Preserves in the Province representing a protected area of well over six million acres.

While the largest portion of this area is situated in Northern Ontario it has been possible to establish a number of small preserve areas in the southern part of the Province through the co-operation of the owners of private property. During the past two years 43 of these small preserve areas have been set aside in the southwestern counties. These areas will be primarily useful for the protection and propagation of upland game birds, although all species of desirable game will be protected.

It is generally acknowledged that where wild life is allowed to propagate with a minimum of human interference and in surroundings which provide natural food and cover there will in time be a return to the normal conditions set up by nature. This means not only increased game in the protected areas but a general improvement in conditions throughout the Province.

So far as the general public is concerned these Preserves serve a dual

purpose. From the standpoint of the sportsman they provide more game of all kinds and therefore better hunting. For those whose chief pleasure in the wild life is aesthetic, Crown Game Preserves will increase their pleasures by providing havens for the different species where they may be found in their natural state. In addition they will ensure that future generations will not be deprived of either the recreational or the aesthetic advantages which we now enjoy, through depletion of our wild life resources.

Regulated Shooting Preserves

For generations the sportsmen of the Province have been permitted to wander almost at will over private property in pursuit of game. This was a very pleasing arrangement from the sportsman's standpoint because it enabled him at a minimum of cost to enjoy certain recreational advantages which in many other lands are the prerogative of the rich. While game is the property of the Crown the land which it inhabits, particularly in Southern Ontario, is mostly privately owned. To reduce the game to possession the hunter must have the co-operation and good will of the landowner, failing which a spirit of antagonism is set up between the two which results in posted lands prohibiting trespass. Unfortunately, during the past few years the good will which formerly existed has been gradually lessening while posted lands have become so common as to be embarrassing to the decent sportsman. Recognizing this fact and feeling that the time was ripe for the introduction of a plan designed to reconcile the hunter and the farmer, the Department has formulated a project for the establishment of regulated shooting preserve areas in certain townships adaptable to the introduction and raising of upland game birds. This plan has already been endorsed by many township councils and the details of the scheme are being worked out by the Department. The general idea however, is that the selected areas will be closed to hunting except during certain open dates of one or two days, for pheasants, provided the number of birds in the area justifies an open season. The Department will concentrate on stocking these areas with birds and to do this has arranged to purchase large numbers of pheasants from private breeders. While the season and regulations will be proclaimed by the Department, control of the areas will be through local organizations of the farmers or township councils. Each hunter will be required to pay a special fee, as is done on Pelee Island, to the controlling organization who will issue the necessary license. The income from the special licenses will be held by the controlling organization for the benefit of the municipality or the organized group, if less than a township is involved. The work of stocking these regulated areas has been proceeding for several weeks and will continue while birds are available.

Given the necessary co-operation of the sportsmen and landowners we believe this plan will be a success. The sportsmen will avoid the embarrassment of being ordered off private property and will have a reasonable assurance of getting some game. The farmer, on the other hand will be com-

pensated for any damage that may occur to his property. Between the two a better spirit of understanding and good will should develop which will do much to overcome present difficulties and keep the sport on a democratic basis.

Protective Service

To administer and enforce the provisions of the Game and Fisheries Act the Department maintains a regular staff of field officers numbering 84. These men are designated Overseers or Game Wardens, and their duties consist of securing observance of the laws and regulations pertaining to fishing and hunting. Their task is a difficult one though they are invariably courteous but firm in carrying out their duties. While these officers are permanent members of the field staff, they constitute only a small, although important, section of the protective service. The services of the regular Field Staff are augmented by the assistance and co-operation of members of the Ontario Provincial Police Force as well as certain seasonal officers who are retained for varying periods in the matter of providing adequate patrol service along certain waters during the spring and fall fish spawning periods and protective work during the various hunting seasons.

Interested sportsmen also play a large part in the work of protecting our fish and game resources. To date some 927 sportsmen conservationists have offered their services and been accepted as Deputy Game Wardens, and as such are authorized to assist in obtaining proper observance of the Act and Regulations. The practical support and moral effect of this army of voluntary workers is of very great importance in preventing abuses of the privileges enjoyed by sportsmen.

To facilitate the work of the permanent field force and to ensure a wide range of protective supervision a great deal of marine equipment has been provided, and is in daily use. One steam tug and eight patrol boats are on duty on the larger bodies of water. On certain inland lakes and waterways three inboard motor boats and twenty-four outboards of various types are located at strategic points and are extensively used in patrol work. In addition certain Overseers are provided with trailers and canvas-covered boats which they are able to transport from lake to lake. To further assist in the work of enforcement some forty canoes with outboard motors have been provided. These range in size from small craft to the larger type of freighters.

The number of convictions for the fiscal year 1935-36 was 967, while the fines totalled \$9,018.40. During the year ending March 31st, 1937, the number of convictions had risen to 1,004 and the total fines collected to \$11,271.15. This would imply that the protective officers are not slackening up in their duties and should be sufficient warning to violators of the Act. The Department takes no pleasure in prosecuting any individual and feels that violations would be greatly lessened if the younger generation could

be taught the reasons for conservation. It is therefore hoped that during the coming school term the Department of Education may see fit to make the teaching of the conservation of our natural resources a part of the curricula of the schools if only for a brief period each week.

It will be obvious from these details that the life of the lawbreaker is beset with much difficulty and uncertainty while the interests of the public are substantially taken care of.

Education and Publicity

While the Department is not sanguine enough to believe that prosecutions for infractions of the law can be avoided it is felt that much can be done to eliminate minor offences through education and moral suasion. Many of these infringements undoubtedly arise through carelessness or a lack of knowledge concerning the different species of fish and game or probably failure to understand the real value of our wild life resources. With a view to public enlightenment, the Department is carrying on a campaign of education and publicity work hoping thereby to acquaint the people of the Province with the economic and recreational value of our resources. At the same time it is hoped that the dissemination of relative natural history information will lead to a better understanding of the problems involved in the conservation of wild life.

In connection with this work a great many public addresses have been delivered by various members of the staff through the co-operation of the Sportsmen's Associations, Service Clubs etc. In addition, suitable talks have been delivered to the pupils of a large number of schools, Boy Scout Groups and Young Men's Clubs. This service is available where desired.

The lecture work has also been augmented by the publication of a monthly Bulletin designed, as its foreword implies, "to stimulate interest in the conservation of the Wild Life Natural Resources of the Province of Ontario." In addition news bulletins are supplied the Press from time to time notifying the public of changes or amendments to the Act.

It is hoped this work will result in a larger measure of public co-operation and in a wider knowledge of the possibilities, when properly applied, of the heritage which is ours. Given this understanding there should be fewer infringements of the Act, more consideration for private property, less waste, and a greater measure of support in the protective work of the Department.

The Game and Fisheries Act

The Game and Fisheries Laws are an important part of the Department's programme to properly conserve the heritage with which it is entrusted. They are not merely regulatory or restrictive but are, in reality, the controlling factors which determine the abundance or otherwise of our wild life resources. They are the result of biological knowledge and practical

experience, and have been framed with due regard to the life history of the various species, particularly that phase of it which determines perpetuation. These laws have many classifications but in general they are intended to develop all classes of desirable wild life while permitting the greatest possible use of these resources, and to discourage certain undesired forms which do not fit into the economic scheme of things.

The laws which encourage development are based on the assumption that nature will largely take care of propagation if given a chance. Hence there are open and close seasons. The close season is most important because it occurs during the period of reproduction. An open season at this time would not only result in destroying parent stock but would also exterminate the young. These seasons must of course vary with the scheme of nature both as to time and extent, and the determination of these factors is based on acquired knowledge of wild life history. Bass, for example, are on the spawning beds in June, while speckled trout spawn in the fall.

However, the encouragement of a close season is not sufficient protection for either fish, birds or mammals, if their perpetuation is to be assured. There are so many people whose enthusiasm for the kill outruns their good sense that if protection during the breeding seasons were the only limitations, our desirable wild life would be destroyed faster than the different species could reproduce themselves. To avoid this the open seasons are shortened and limitations placed upon the numbers that may be taken. Thus we have legal bag and creel limits, which have the effect of leaving sufficient seed stock for future needs.

Provision is also made in the laws for the year-round protection of certain species which have become depleted, such as Beaver, Caribou and Elk. Other desirable non-game species such as song birds are afforded the same protection. This means that it is illegal to kill these species at any time.

The development of the desirable species is further augmented by the game preserves, restricted waters and artificial propagation, all of which have been previously referred to.

The control of undesirable species is undertaken through removal of the protection afforded to the more desirable species of fish and game, and, in the case of the wolf, through payment of a bounty for its destruction.

Certain laws forbidding the taking of fish and game by methods both unscrupulous and unsportsmanlike are intended to avoid unbridled destruction and to ensure the wise use of the available assets by methods which afford the greatest pleasure to the greatest number.

The laws which provide for the payment of a license fee for certain privileges are, of course, intended primarily to provide revenue for carrying on the administrative work of the Department, but they serve a wider purpose in that they afford a means of keeping a close check on the

resources, through the information required from the licensee as a condition of his license. From the information gathered from these sources valuable statistical knowledge is available.

A study of the laws and regulations will convince the most skeptical that they are an important part of the programme necessary for the conservation of our fish and game resources and that when the public is urged to observe the laws it is a request for co-operation in the management of a valuable trust. Non-observance of the regulations, however unimportant the details may seem, is unfair to that ever increasing family of sportsmen and nature lovers who conscientiously obey the laws and pursue their recreational pleasures from the highest standard of sportsmanship.

The Tourist Traffic

The importance of the tourist traffic has been repeatedly stressed. It is an industry which now occupies a premier place in the economic life of the Province. That we have entered into another period of prosperity is emphasized by the ever increasing numbers of visitors who come to the Province each year. Since 1934 there has been a continual upward trend in the numbers of our tourist guests and in the income derived therefrom. In 1934 the estimated revenue from this source was \$55,884,000 in 1935 it was \$84,233,000, while for 1936 the figures were \$113,584,911. This year the traffic has been much heavier and it is estimated that approximately 9,000,000 people will visit the Province for varying periods and spend something like \$125,000,000 during their sojourn.

This huge revenue is important in that it has a wide distribution and represents employment to thousands of citizens. A little reflection will show the widespread nature of the business activities stimulated by this seasonal influx of visitors, and that all of us benefit, directly or indirectly, either through the general circulation of the tourist expenditure or the Government revenue derived therefrom.

The revenue accruing to the Department of Game and Fisheries from Angling Licenses is an excellent barometer of the increased expenditure by tourists. Figures to the end of July show that \$106,734 has been received from this source. This is some \$21,153 in excess of the returns during the same period last year. It is obvious therefore that fishing occupies a prominent place in the recreational programme of the tourist and that every effort should be made to conserve this valuable wild life heritage.

Artificial Hatching

Exhibition visitors last year were greatly interested in the model fish hatchery which was on display in the Department exhibit, and many questions were asked regarding this phase of fish culture work. The series of jars and trays with streams of water flowing into, or over them presented

a complex piece of equipment to the uninitiated. Yet the process is a simple one of duplicating and even improving the conditions found in nature.

For the purpose of explaining the process of the artificial hatching of fish let us deal with speckled trout from spawn taking to rearing of the young. At a typical hatchery, thousands of adult parent fish are kept for breeding purposes. This necessitates the use of suitable ponds, and a considerable expenditure for food. Under natural conditions speckled trout spawn in the fall of the year and during this period the fish proceed upstream into the tributary waters in search of suitable spawning beds. Scores of trout crowd into limited areas at this time so that the water seems alive with fish. When ripe the female fish deposits her eggs and these are fertilized by the male fish. The eggs which escape destruction by the cannibal fish lie buried in the crevices on the gravel bottom. In due course they hatch out in the early part of the following year.

In the case of the domesticated hatchery fish, the trout proceed up the pond to the connecting stream where they find a current of water and a suitable sand and gravel bottom. At the head of the pond in this stream a spawning tank is built about ten feet wide and possibly two hundred feet long. All water flowing into the pond passes through this tank. The opening at the end nearest the pond is made narrow and the volume of water passing through makes a strong current.

The trout, attracted by the current, go into the tank when they are about ready to spawn and proceed to the upper end where a grating prevents them from going further upstream.

The tank is divided into sections of twenty feet and when there are sufficient fish to be kept comfortable in such space, a screen is placed in the tank and the fish retained in that section. This method is followed until all the fish that are going to the spawning grounds are in the tank, retained in the different sections as described above. The trout, that go upstream first into the spawning tank will spawn first, for this reason the fish are kept divided in sections so as to avoid unnecessary handling.

The fish are carefully examined from time to time by experienced spawn-takers and when the trout are ready to spawn some of the ripe males are carefully dipped out of the tank into a large tub of water while the ripe females are placed in another tub. The spawn is then taken from the female fish by a gentle pressure of the thumb on the ventral surface, eight to ten being spawned at one time into a pan. The fresh milt of the male fish is then carefully mixed with the eggs. This is done with a feather in order to ensure care and the fertility of the eggs. When this initial part of the process is completed the eggs are kept stirred every ten minutes and after twenty minutes have elapsed from the time the eggs are taken, fresh water is added and poured off to clean and harden the eggs. The process of adding

water for the purpose of hardening the eggs is continued for at least four hours.

When the spawn arrives at the hatchery, the temperature of the eggs is taken, as well as the temperature of the water in the hatchery. If there is any difference, it is necessary to slowly equalize the temperature of the eggs to that of the water in the hatchery wherein they are to be placed.

The eggs are then placed on wire-cloth trays, to ensure circulation of water and the trays are set in troughs ten inches wide and twelve to fourteen feet long through which flows about three gallons of water per minute in each trough. This steady flow of water is maintained day and night during the period of incubation. A little reflection will show that this process is merely an artificial duplication of the conditions found in nature where the eggs lie on the gravel bottom and are hatched by the constant flow of water which passes over them. During the process of incubation in the hatcheries the eggs are kept clean and all of the infertile eggs removed from time to time with wooden forceps. The period of hatching depends on the temperature of the water and ranges from 32 days in water of 54 degrees to 165 days in water at 37 degrees.

When the fish hatch in the spring, they live for three to four weeks on the food sac attached to the body and which they absorb, after this they are fed very fine particles of liver. For the first month they are fed frequently each day, receiving only sufficient food at one time for immediate consumption so as not to pollute the water or troughs. The quantity of food is increased as the fish require it, and as they keep growing they are placed in larger tanks or small rearing ponds, where they are carefully watched and fed regularly an amount of food suitable to their needs.

The jars which will be noticed in the model exhibit represent merely another method of accomplishing the same purpose, but the process is slightly different. Whereas the eggs of the trout species must be separated and remain quietly on the trays during the incubation period, the eggs of other species such as whitefish, maskinonge, pickerel and others are more successfully hatched in mass and kept in motion all the time. To accomplish this they are placed in jars. By means of a tube which passes down through the jar the water enters from the bottom and forces its way up through the mass of eggs, overflowing over the lip of the jar. This circulation of water keeps the eggs in motion and when the young fish are hatched they pass over the lip of the jar into convenient troughs located behind.

It should be noted that while a large number of bass are raised and distributed each year they are not hatched artificially. It is impossible to remove the spawn from bass, so large numbers of parent fish are kept in ponds and provided with nests for spawning purposes. This process is carried out naturally and when the young are hatched screens are placed over them and in due course they are removed to separate rearing ponds where they are taken care of until ready for distribution to the most suitable water areas.

Radio Metaphors Musingly Mixed

Radio broadcasting and reception have become so much a part of our every day life that we accept them as a matter of course, like switching on the electric light or dialing our friends on the telephone. To the *modus operandi* or the technical and scientific details we give little or no thought. Sufficient for most of us that when we turn a dial the radio proceeds to entertain us, or snap a switch and the house is flooded with light, or hold conversation with our friends in almost any part of the world by the simple process of placing a receiver to our ear and talking into a microphone. Behind the scenes however, many forces are at work and much technical detail is involved.

We started out to speak of some phases of radio however, with the idea of pointing a moral, so let us confine ourselves to this latest modern marvel. Radio has two distinct operations, speaking in a broad sense, namely, Broadcasting and Receiving, and it takes both to complete the function. The broadcasting station sends its impulses into the air in the form of electrical waves, but these would be entirely dissipated were it not for the receiver which functions in the home. This apparatus picks up the electrical impulses transmitted by the broadcasting station and changes them back again to the sounds, voice, music, etc., which are emitted by the loud speaker. Of course the said loud speaker frequently emits a great many discordant sounds which are not intended to be part of the programme but as they seldom originate in the broadcasting station let us pass them over for the present.

For effective reception the radio must be tuned to the exact broadcast band being used by the broadcasting station. Here it should be noted that every radio, within a reasonable distance, which is tuned to the wavelength of any particular broadcasting station will be affected by the impulses sent out by that station. In short, thousands of radio sets throughout the country are being affected by the impulses from one key station and countless thousands of people are receiving education or entertainment as a result of the synchronizing of these two units.

It appears to us that somewhat the same conditions apply in the realm of human relations. Each of us is a combination broadcasting and receiving station metaphorically speaking. Someone is continually tuned into our wavelength and being influenced by our life and actions. It may be a son, a companion or just the casual acquaintances of the club. The influence of a life passes beyond the realm of self and the reaction of those who are tuned to the impulses is beyond our control, just as the electrical waves from the broadcasting station, once they have been discharged into the air, are beyond the control of the broadcaster, for he who has a radio and is within their sphere may tune them in. There is room here for a sermon on the influence of character but such is not our function. We would point out however,

that in the realm of sporting activities and particularly hunting and fishing the same simile applies.

Do you remember the occasion you had Junior with you on a fishing trip and you caught a nice bass before the opening of the season? It was a beauty and Junior was in ecstasy over it so you kept it instead of throwing it back again. Or do you recall the day when bass fishing on the lake with the same boy and two of his companions, and how the little fish were biting? Oh yes, the kids were having a "whale" of a time and so were you, but you failed to throw back those of doubtful size or exercise any particular care in handling them and the "kids" tuned into your wavelength, followed your example. It wasn't that you didn't know any better, but just that it didn't seem important. You were broadcasting a code of ethics just the same and the "kids" were tuned in.

Radios are extremely sensitive. They have to be in order to pick up the electrical impulses for these are so delicate, according to experts, as to represent no more energy than that developed by a fly in its progress up a window pane. Children are equally sensitive. The childish mind is quick to grasp an idea and to emulate the actions of an older person. It is evident therefore, that the development of the child along the lines of good sportsmanship will largely depend upon the influence of its associations, and the direction it receives from the human stations it prefers to "tune in." The difficulty is that we may be "on the air" to some child and not be aware of the fact. To avoid the shattering of hero worship necessitates that we be on our guard at all times and conscious of our responsibility for the spread of those ideals which are the basis of the success of the conservation movement. After all, so far as fishing and hunting are concerned, it requires no particular effort on our part, simply the observance of the prescribed regulations and the practice of the ethics of sportsmanship.

The youth of today will be the sportsmen of tomorrow. They require guidance and direction from those of us who are competent to offer such instruction. The boy or boys who are under the spell of your influence, tuned to your wavelength, will respond to the knowledge which you, consciously or unconsciously impart to them through your actions.

Every youth has an adult hero whom he worships and after whom he patterns his actions without much regard for the righteousness of such imitation. Where there is disregard for the conservation, or other laws, by the youth of today the cause reverts back to the ethics broadcast by some adult. It is a serious responsibility which we ought to meet with due regard for the consequences thereof.

Every substantial broadcast programme is planned with the idea of affording the best in entertainment and education, and the pitfalls to be avoided are prescribed by the regulations governing broadcasting. There are regulations, active and moral, which control the preservation of our fish

and game resources. The broadcast of these regulations through personal observance and appropriate actions will ensure that those who are tuned to our influence will have their knowledge on the subject directed along proper lines.

The discordant notes which frequently mar the finest radio programme are usually the result of minor defects in the radio or interference from external sources. This form of interference is difficult to overcome without applying a remedy at the source of the trouble. The programme of conservation broadcast by the Department and rebroadcast by every good sportsman is frequently marred by the static of the poacher, the thoughtlessness of otherwise responsible citizens, or the destruction which follows lack of knowledge. As in the case of radio reception, these annoying interferences can only be completely eradicated by supplying a remedy at the source of the trouble. To accomplish this requires the metaphorical installation of moral condensers at the point where the disturbance originates. This is a difficult job, because of the complexities of human nature, but much can be done to modify the static through the broadcast of knowledge, the influence of example, and the weight of public opinion.

We recognize that ere this our metaphors have become somewhat mixed and involved but if we have succeeded in getting you to recognize the importance of your co-operation through precept and example, then nothing else matters.

* * * *

With Pen and Scissors

J. M.

In the July issue we described an incident we had witnessed of a snake swallowing a bass. Commenting on this, Professor Harkness writes: "On July 31, 1937, after angling with a party for speckled trout in the vicinity of Burk's Falls, we examined the stomach contents of the fish taken. Among the most interesting of the food items taken by trout was a garter snake. One ten-inch trout had eaten a garter snake which was just a little over ten inches in length." Sounds like confirmation of the biblical doctrine, "an eye for an eye and a tooth for a tooth!" Snakes eat fish, fish eat snakes.

* * * *

While we are on the subject of fish food we are reminded of the story told us last year by a visitor to the Department's display at the exhibition. It seems that some years ago he was trolling for lake trout on one of the Muskoka Lakes and caught a fair sized fish. On taking it off the hook he noticed a peculiar looking bulge in the region of the stomach. Thinking to get some information as to what the fish were eating he exerted some pressure on this bulge and to his surprise squeezed a newly born kitten out of the mouth of the trout! It looked as if some worried feline owner had drowned the latest crop of kittens and provided a delicate repast for the voracious trout.



ONTARIO

Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

October, 1937

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

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THE progress of civilization has been marked by social and economic changes—the result of experience, research and national development. The programme of conservation as applied to our fish and game resources is the result of the same factors. Our forefathers, for lack of knowledge of the effect of profligate destruction of wild life and natural habitat came close to dissipating a valuable heritage. The so-called “inexhaustible” provisions of nature for providing wild life in perpetuity almost became wrecked on the shoals of unseemly waste and economic development.

The more or less unlimited slaughter of game and fish which characterized the pre-conservation age was unnecessary waste, as unnecessary as it was unjustifiable. The destruction of habitat through the intensive cutting down of trees and the clearing of land for agricultural purposes seemed necessary to social and economic progress, while the interference with water levels and water content appeared to be an essential part of our industrial development. Yet that progress and development in many respects has been ill-advised—witness our drought sections, flood areas and soil erosion conditions. In the case of wild life the results have been equally unfortunate. The destruction of environment had the effect of limiting the areas available to game and other wild life and lessening the numbers that could be supported thereon. Interference with water conditions and the introduction of refuse and other foreign substances has cut down the fishing possibilities in many areas which once were fertile sources of supply. In short, wild life depletion wherever it has occurred is mainly the result of man's lack of knowledge, or his complete indifference to consequences.

Because this generation is a generation of outdoor's men, vitally interested in wild life for aesthetic, recreational or economic reasons it must accept in no small measure the responsibility for readjusting the mistakes of the past, so as to enable us to develop to the fullest extent the available resources. This will not be easy. There are many factors to be taken care of, each a problem demanding the utmost in co-operation. Conservation is the programme by which we hope to bring about these reajustments. It is broad in its scope and embraces building up where we have torn down, replacing what we have undone, and restoring by natural and artificial means those resources which can be restored. We invite the co-operation of every sportsman in our efforts along these lines.

FALL SPAWNING

In the great scheme of nature for the welfare of man, the harvest of the water occupies an important place. The science of aquiculture, while probably less important, so far as man's "daily bread" is concerned, than that of agriculture is nevertheless essential to the proper harvesting of the crop obtainable from our vast water areas. The process of cultivating, planting and reaping necessary to the production of field crops is duplicated in large measure in connection with the proper development of our fisheries. In other words, to harvest a crop of grain one must assist nature by sowing seed in properly prepared soil, and to provide an adequate supply of fish to meet all demands, one must also assist nature by artificial propagation and scientific plantings in suitable waters.

At this season of the year the activities of the fish culture branch are largely devoted to the collection of spawn from those species of commercial and game fish which propagate during the fall. Sportsmen are more or less familiar with the method of hatching as carried on in our hatcheries, but the work of collecting spawn from the commercial species of fish, which are not raised from domestic parent stock, is probably less understood. It will be obvious that those most interested in keeping up the supply of saleable fish in our waters are the commercial fishermen. Each fall, therefore, the Department enlists the co-operation of those who are thus employed to assist in collecting the spawn from live fish taken in their nets. Every licensed fisherman who operates near a spawning ground is either a spawn taker himself or has a man placed on his boat by the Department to perform the operation. In the former case the fisherman is paid so much per quart for all the suitable spawn he gathers while in the latter case the official is an experienced man employed by the Department. As showing the extent of this work it is noted that some 211 fishermen and 57 employees of the Department were engaged in the actual collection of spawn last fall.

The operation of stripping and impregnating the eggs is a simple one but requires great care at all stages. The fish from which the spawn is taken must be live fish in order that hatchable eggs may be procured. This is important because it is possible to take spawn from drowned fish and partially drowned fish that have been in the nets for some time, but these are useless for hatching purposes. As the live fish are taken from the nets the operator grasps the ripe females in an approved manner, and by exerting a gentle pressure on the ventral surface causes the eggs to flow in a steady stream into a convenient container. After two or three females have been stripped, the milt of the male fish is added to the mass of eggs and the whole gently stirred with a feather to bring the eggs in contact with the milt. The process of conditioning the eggs for shipment to the hatcheries through frequent changes of water has been described in a previous article.

Commercial spawning operations are carried out from Lake of the Woods to the Bay of Quinte, by way of Lake Superior, Lake Huron, Georgian Bay, Lake Erie and Lake Ontario. Hatcheries to take care of the dif-

ferent areas are located at Port Arthur, Fort Frances, Sault Ste. Marie, Wiarton, Collingwood, Southampton, Sarnia, Kingsville, Normandale, Belleville and Glenora. These are not all of the hatcheries operated by the Province, but they represent those which are used wholly or in part for the production of the commercial species of fish as opposed to game fish, the sale of which is prohibited.

Fish which spawn in the fall become ripe as the temperature of the water drops. As the period of incubation varies in direct ratio with the water temperature, it will be obvious that the eggs of fall spawners take longer to hatch than those which propagate in the late spring. Roughly speaking, whitefish, herring and lake trout, the principal commercial fish, require approximately 150 days for hatching.

Whitefish and herring fry are planted during April, lake trout fry and fingerlings during May and June. The planting of these fish is carried out by experienced hatchery employees and the greatest care is taken to see that the transfer from the hatchery to the new environment follows the most approved methods. So far as is possible the young fish are released in the areas where natural spawning would have taken place because, in addition to this being the logical place for them to begin their precarious existence, food is usually plentiful in such localities.

It should be noted that in the case of the lake trout the plantings are not all done for the benefit of the commercial fisherman. Suitable inland lakes in ever increasing numbers are being stocked with lake trout for the benefit of the angler and the professional is excluded from these areas.

Crow-Waterfowl Relationships

The United States Department of Agriculture, with a view to determining the relationship of crows to waterfowl, conducted extensive studies during the years 1934-1935 in the vicinities of Prince Albert and Waterhen Lake, Saskatchewan, and southeast of Edmonton, Alberta. These studies were very complete and embraced detailed field observation and stomach examination. The following facts and figures are taken from a report covering these operations, by E. R. Kalmbach, Senior Biologist of the Department. Some 512 duck nests were studied. Of this number, 250 (49 per cent.) produced young. In some instances the number of eggs was reduced by one cause or another before hatching. "Crows", according to the report, "were definitely chargeable with the destruction of 156 nests (31 per cent.) though some of these may have been deserted by the female before the eggs were eaten." Some 53 nests (10 per cent.) were destroyed, the cause of which could not be ascertained. Female ducks deserted 40 (8 per cent.) of the nests while the remaining two per cent. met miscellaneous fates including nine in which the incubating bird was killed by predators.

With regard to the apparently high total of nests destroyed by crows the Department of Agriculture offers this explanation, which has considerable bearing on the matter. "Since the areas studied were selected with the idea of witnessing the crow at its worst, probably a higher degree of egg de-

struction was revealed than would be the average throughout the range of the crow on this continent. Furthermore, since the crow is found in abundance on only part of the waterfowl breeding areas, the aggregate egg loss, if prorated for the entire waterfowl population of North America, would be materially less, possibly not more than a tenth of the eggs laid."

Summing up its conclusions the Department has this to say: "Although the findings of this study are sufficiently disturbing to merit attention in programmes of waterfowl restoration where crows are numerous, unwarranted conclusions and ill-advised action should be carefully guarded against. On the areas studied the crow was probably at its worst. Its normal role as a predator on the eggs of waterfowl throughout Canada and the northern United States is yet to be determined, but the indications point to its being less severe than these studies have revealed. In any event, it is to be remembered that the range of the crow in destructive numbers now covers only a part (possibly a sixth) of the whole productive waterfowl nesting area in Canada and Alaska. Beyond the limits of these overlapping ranges there is no serious crow-waterfowl problem."

"Waterfowl, in common with all other bird life, can ordinarily withstand what might be termed 'natural losses' during the reproductive period. The fecundity of most species is sufficient to compensate for any ordinary drain. Where, however, conditions similar to those encountered in these studies arise on important areas dedicated primarily to the welfare of nesting waterfowl, rational crow control should become a part of any game-management programme."

It is obvious that the depredations of the crow in areas infested by these vandals constitutes a real menace to wild fowl propagation. However, crow destruction alone will not promote restoration of the duck population to any appreciable extent, because, as has been pointed out, the menace is confined to a comparatively small area. Depletion of any species of wild life is the result of a combination of factors such as over-shooting, drought, disease, predators and destruction of habitat. All of these must be taken into consideration and all of them must be tackled through the channels of investigation, co-operation and regulation. Present day conservation measures have taken cognizance of all three of these special requirements and enlightened sportsmen should get behind every progressive step in this direction.

It's Up to You

With a successful season behind him the Angler can now sit back in the comfort of his favourite chair and in retrospect view the situation as it affects his favourite sport. Through the haze of smoke from his companionable pipe he will doubtless picture days of unalloyed joy on stream and lake. Fish were reasonably plentiful despite intensive fishing. There was, for instance, that unforgettable day on the old familiar stream whose deep holes and modified rapids he knew like a book. The trout seemed to be quite plentiful and his creel limit was reached all too soon. The public

had evidently deserted the stream, believing it to be too depleted to be interesting, but it was certainly showing signs of active development. Or perhaps he lives over again that fight he had with a chunk of "dancing dynamite" in the shape of a small-mouthed bass. The bent rod, the taut line and at the end of the line a scrapping, leaping, tugging torpedo charged with fighting fury; every thrill he experienced then he was enjoying again. Or perchance he recalls that cast to the edge of the weed bed and how as he started to reclaim the lure it suddenly disappeared in a swirl of spray. For the best part of an hour he was forced to pit all his wiles and cunning against the strength and cunning of a formidable foe, and when at last he had subdued his adversary and brought him alongside the boat it was a real pleasure to unhook him and let him go. That Muskie will live to fight another day.

Being in a pensive mood he remembers, among other things, that floods were very prevalent during the past season; that quiet and placid rivers became raging torrents of unbridled energy sweeping away every obstruction in their path and leaving a wake of physical disablement and material destruction. This, however, is but half the picture. Those raging torrents also washed away the vegetation which provides food for young fish, or covered the food supply with a coating of silt or by their very intensity carried away or destroyed thousands of young fish. Pondering over this outbreak of nature he realizes that man has probably contributed materially to bringing it about, through his lack of foresight in destroying the resources of nature for his own material advantage without compensating adjustments to take care of the changed conditions. The streams which last year overflowed their banks and almost engulfed sections of the countryside will probably be found to be almost dry over large areas during the dry season. thus fish life is forced to battle a new terror. Flood waters are a part of our climatic conditions and parched soil may readily follow a prolonged period of drought, but uncontrolled floods, dried up water areas, and destruction of soil through erosion are the results of human folly. All of these conditions adversely affect our game and fish and intensify the problem of maintaining a supply adequate to the demand.

The controlling of floods under present conditions is largely an engineering problem but as the cutting down of trees and vegetation, and the draining of swamp areas has contributed largely to soil erosion and the drying up of our watersheds and waterways, the solution of our difficulties will be largely brought about by a restoration of natural conditions. Planting shade trees on open streams will assist in maintaining the temperature of the water and prevent destruction of fish life. Preservation and restoration of vegetation or natural habitat will contribute in large measure to the development of our game resources.

And so our pensive Angler begins to realize that the conservation of the resources which make his sport possible is the care of every sportsman, for in the last analysis, perpetuation is only possible through co-operation. The planting of millions of fish each year by the Department will not in itself

ensure a supply sufficient to meet the demands unless the other factors which enter into their development are properly controlled. Some of these factors have been reviewed in these brief musings, the others are mostly covered by strict observance of the laws which are designed to protect and control. The problem of perpetuating the sport of fishing is squarely up to the fisherman, for without his co-operation, conservation is impossible. Be a Conservationist.

Concerning Deer

The difficulties which beset the conservationist in his search for knowledge as to the best methods of protecting and stimulating the development of desirable wild life are intensified by the extreme differences of opinion which exist between sportsmen whose practical experience frequently gives them a one-sided slant on the problem at issue. These men are sincere in their differences. Each has a certain knowledge, the result of personal contact with wild life, which leads to very definite conclusions. Unfortunately circumstances and prevailing conditions which largely determine cause and effect, so far as wild life is concerned, are very often left out of consideration when forming opinions as to the proper measures to obtain a given end. This leads to division of ideas and as a consequence it is frequently difficult to enlist the whole-hearted co-operation of those whose opinions are radically opposed to the plan pursued. Theory and experience often clash and yet both are essential to a proper understanding of any problem.

These observations are prompted by the receipt of two different articles on the subject of "deer" which have just been received. Their perusal reminds us of the diversity of opinion which exists among sportsmen in the Province over the laws in effect with regard to deer, and how widely different are the prevailing ideas with respect to their protection. It is not our intention to create any controversy but rather to assist in a better understanding of the complexities of the problem. We believe that many sportsmen will be interested in a brief synopsis of the deer situation as it exists in different lands under a variety of local conditions.

In the State of Pennsylvania the deer situation is somewhat unique. Rigid protective laws have increased the herd so considerably that it has been necessary to declare special open seasons restricted to the female of the species. Says a report emanating from the Commission: "Despite the fact that thousands of antlerless deer have been killed every now and then under special seasons during the past fifteen years, and despite the further fact that many thousands more have been killed by farmers to protect crops and orchards, or starved due to lack of food or died by accident, the Game President claims that under Pennsylvania's protective measures the animals replenish their depleted ranks so rapidly that the Commission has no alternative than to effect occasional humane reductions by declaring special seasons."

"Such seasons, according to Major Biddle, are absolutely necessary in order to control the herd and to maintain the size and quality of the animals

themselves. The average sportsman is perfectly willing to get along with a few less deer if the stamina of the animals, and better trophies may thereby be assured. Nobody wants to kill only 'runt deer'," the Game Chairman exclaimed.

According to the estimated figures for the various districts it will be necessary to remove some 20,750 antlerless deer. It should be noted that there is a regular open season for antlered deer throughout the State in addition to the special season on does which will prevail in certain Counties.

The chairman is right when he states that "nobody wants to kill runt deer." Most sportsmen have also a decided aversion to killing does in the wholesale manner necessary in Pennsylvania.

A Bulletin, edited by Mr. G. C. Toner and published by the Eastern Ontario Fish and Game Protective Association, has just come to our desk. It contains an interesting paper by Mr. H. H. Williamson, National Parks Bureau on the problem of predation. In his opening paragraph the writer remarks: "The problem on predation is as old as animal life on earth. Almost every species on the earth today evolved with enemies lying in wait. Predation is normal, not exceptional, and when man undertakes to tamper with what is normal as between one animal and another, especially when only part of the truth is understood he is starting a chain of events the results of which cannot be foretold, and which will almost certainly be surprising and injurious to man's best interests." This is illustrated in a reference to Scotland and a statement by Dr. Cameron, "the greatest authority on the Scottish red deer herds." This authority states: "Artificial protection and the absence of all natural enemies except man, has permitted an enormous increase in numbers in the Scottish Deer Forests. The animals have decreased in quality and in size and parasitism is rife. Unless numbers are artificially decreased in the near future, that once magnificent animal is going to disappear completely."

The Kaibat Forest of Northern Arizona, according to the author, provides further example of the difficulties which arise when an attempt is made to develop one species at the expense of others. In this area predators were effectively removed and the deer became so numerous as to literally "eat themselves out of house and home." A Committee was appointed to investigate and report on what should be done to ease the situation. "The recommendation of the Committee was that the number of deer be greatly reduced and held at a low level until the various species of shrubs and young trees, upon which the deer subsist, are re-established. The Committee recommended further that all forms of natural wild life, other than deer, be left undisturbed; also that the area be closed to trapping and the hunting of flesh-eating animals until adequate reductions of deer are made."

In New Zealand the problem appears to have become a serious one. Quoting from Capt. E. V. Sanderson, President, New Zealand Native Birds Protective Society, Wellington, N.Z., who was asked for information on the

subject, the author says: "The initial experience was that the animals increased very fast, and the heads then obtained were probably unequalled elsewhere, as would be expected when such a plentitude of food was available as then existed in our virgin forests.

"Then came the aftermath; the deer increased so rapidly as to become a national menace of the first magnitude. The forests are now being destroyed and most serious erosion has already been set up in some of our mountain districts. With the decreasing food supply, the good deer head have become scarce, and difficult to obtain, despite the presence of hordes of deer in many places.

"The leaders of the sportsmen here have intimated their inability to handle the menace, with the result that the taxpayer has had to shoulder the burden, but although numerous paid hunting parties are operating, a bounty being paid on all tails, and all protection has been removed, the natural increase cannot be kept within reasonable limits, owing to the extremely rough nature of the country, and mountain ranges. The only hope, both from a deer-stalker's point of view, and from a national prosperity point of view, is the introduction of the natural enemy, but this, again, would entail much loss to our very large domestic flocks, and is unthinkable from the point of view of the pastoralists."

Commenting on the destruction of New Zealand's forests, and the consequent soil erosion, by deer, where there are no predators to control them, the author, quoting from a statement by Dr. Leonard Cockayne, F. R. C. D. Sc. (N. Z.) Ph. D., says in part:

"Possibly if certain deer-forests were set aside, and deer strictly limited thereto; it might meet the case. But even this seems a dangerous method of dealing with a most serious question. Absolute extermination seems far and away the most reasonable policy."

As we set out to affirm, the problem of the deer herd is both complex and difficult. A depleted herd unprotected from predators and suffering from lack of proper regulatory control over the hunter is almost certain to be doomed to extinction. On the other hand, a depleted herd may be so developed by rigid predator and hunting control that the increase in numbers will spell the doom of the species. There is a saturation point beyond which development cannot be carried without grave danger to the herd and the many factors which enter into its development.

Educating the Boy

The season of holiday activities being over, the fall and winter programme of the Game and Fish Protective Associations will soon be under way. The success of these Associations will largely depend on the leadership afforded the members. This is a responsibility not to be treated lightly. The effect of united effort on behalf of any worthy cause is the difference between success and failure. Much of the success of the conservation move-

ment will also depend on enthusiastic leadership, for the inspiration of proper direction is necessary to co-operative effort. All good sportsmen are conservation minded. The statement that the continuation, in perpetuity, of the recreational advantages which we enjoy is dependent on the wise use of our resources requires no elucidation. One of the functions of a Protective Association is, as its name implies, "to protect", and to ensure a complete understanding as to how this may be accomplished education along certain lines is both desirable and necessary.

In this connection it appears to us that there is no more fertile field for the carrying on of an educational programme along conservational lines than among the youth of the Province. The mature ideas of age are sometimes difficult to break but the mind of youth is both receptive and pliable, and the youth of today will be the sportsmen of tomorrow. Somewhere in the Good Book there is a verse which says, "train up a child in the way he should go and when he is old he will not depart therefrom." The education of youth along the lines suggested and embodying in the training the highest ideals of sportsmanship is our best assurance of wild life perpetuation and good citizenship.

The Department has not lost sight of this fact and has carried its educational campaign to the schools wherever possible, as well as to the Boy Scouts and other youth organizations, and will continue so to do. However, it is our opinion that the environment of a well conducted sportsmen's association provides a background which intensifies the interest of youth not only in the recreational possibilities of the twin sports but also in the ideals of sportsmanship so essential to their perpetuation. Infractions of laws and regulations on the part of youth are primarily the result of a lack of knowledge. The boy who goes "catching fish", unless he has been taught otherwise, believes that everything that nibbles at his bait and becomes snared on his hook is legitimate prey. And by the same token the gang that ventures forth armed with airguns or twenty-two's appears to have the idea that everything that flashes across their vision in forest or field is fashioned to enable them to test their marksmanship. While we deplore this situation we prefer not to condemn. The fault frequently does not lie with youth but rather in a lack of adult guidance, either parental or otherwise.

Take the matter of fishing for example. Thousands of youngsters at summer resorts all over the Province derive a great deal of pleasure from catching fish. Unfortunately through lack of knowledge many of them are unfamiliar with available species or limits of size or catch. As a consequence small bass are destroyed in large numbers. If Dad is a good sportsman the boy will have been enlightened on the subject, but if Dad is indifferent and rather enjoys the boy's enthusiasm, the youthful fisherman may lack the necessary knowledge to conform with the law. "Mister", said a little chap who, with the curiosity of youth, stopped to look at a three-pound bass a successful angler was showing to a friend, "That's a nice carp you caught!"

Carp, sucker, bass, what's the difference? To the uninformed youngster all are just "fish" and seasons do not exist.

The youthful mind is thirsting for knowledge, which sportsmen can readily supply. A few weeks ago the writer had the pleasure of talking to a group of boys on the general subject of fishing. At the end of the talk, to which they listened attentively, the chairman invited the youngsters, boys of from about 9 to 14, to ask questions. The boys certainly took advantage of the opportunity and for fully twenty minutes or more thereafter laid down a barrage of interrogations on every conceivable point (and others that only a youthful mind could conceive) in connection with fish or fishing. The information they desired extended from sardines to whales and embraced physical as well as biological characteristics. The interest shown was a splendid criterion of the value of such work in directing the thoughts and energies of these prospective fishermen along proper lines.

The atmosphere of the meeting was such as to stimulate interest in the subject under discussion. Fishing pictures were shown to the accompaniment of exclamations denoting surprise, envy and pleasure from the boys themselves. Having created the "atmosphere", as applied to movies, etc., it was a simple matter to explain the "how, why and wherefor" of the sport and its many aspects of conservation and sportsmanship.

As we already remarked, the environment of a progressive Fish and Game Protective Association Meeting is such as to create interest in the subject, and an enquiring mind is more receptive when the proper mood has been developed. Once more, therefore, we urge the sportsmen to make provision for the boy in the planning of their association activities. The education he needs is vital to the life of your association and to the future of your sport. Share it with him.

Unwise Drainage and Waterfowl Depletion

The duck season is in full swing throughout the Province and enthusiastic nimrods are braving the early morning frosts and biting fall winds to crouch in the blinds and wait for the elusive prey. Duck hunting is a rugged sport, demanding a great deal of personal fortitude, patience and self-control. If you doubt this try the routine of getting up before daybreak on a cold, frosty morning and crouching in a blind for hours perhaps, scanning the heavens for sight of approaching game, and almost afraid to move for fear of diverting the flight out of range. Ducks are wary and the slightest sign of danger is sufficient to send them speeding off on another tack to the disappointment of the hunter.

Wild fowl, because of its migratory nature, is the heritage of a Continent rather than any part thereof. While Canada is the principal breeding ground and controls its own seasons and limits, the flights from the breeding grounds to the winter resorts in the south are subject to the same intensive hunting which takes place in Canada. As a consequence propaga-

tion and protection are the concern of both countries. Progressive depletion of the duck population during the past few years has created a problem in the United States which has resulted in drastic restrictions on seasons, bag limits and the methods employed in hunting. The situation has had its reverberations in Canada and resulted in a reduction of the season and bag limits and a general tightening up of the regulations which govern.

The cause is not primarily one of hunting although it has a bearing on the matter. With this in mind it will probably be of interest to sportsmen to learn just how much of the problem is due to unnatural conditions. In a report issued by the "Committee on Conservation of Wildlife Resources" appointed by the Senate of the United States we find the following lucid account of the disaster caused by unwise drainage, and its effect on the duck situation:

"The causes of the tremendous decline in waterfowl population were not generally understood by the layman, nor was the decline itself fully appreciated for many years. but those scientific observers who had studied the situation comprehended its causes and realized that the decline was truly an alarming one.

"In our unrelenting search for more land capable of cultivation, drainage naturally was resorted to; but, unlike the westward movement of the pioneers of Colonial and post-Colonial periods, the drainage craze that swept the United States in the early part of the present century was not a steady advance into unoccupied regions, but a rapid and almost simultaneous assault on every available pond and pool, marsh and slough. Peak prices in agriculture brought a frenzy of 'reclamation'. Since the enactment of the Swamp Land Act in 1850 some 77,000,000 acres of water and marsh areas have been drained in the quest of benefits, which in an all too large percentage of cases, did not accrue. In place of large areas of productive farm land, the hopeful farmer often found himself possessed of barren or alkaline wastelands totally unfit for man, agriculture, or wild life.

"Much has been written about this utterly foolish debauchery of one of the Nation's most valuable natural resources, and evidence of the truth of the warnings that were raised by those who had studied the problem is now to be seen on every hand. Dried-up streams and stagnating and mosquito-infested pools, lowered water levels, floods, and erosion—largely attributable to unwise drainage—have brought about land depletion and wastage. The processes that almost invariably follow drainage are now obvious. First, there is lack of moisture, followed in turn by insufficient forage, then by over-grazing, and finally by the complete reduction of the region to a waste of wind-eroded and desolate lands.

"Conservationists began to realize that even a nation endowed with seemingly inexhaustible natural resources cannot with impunity continue to dissipate its water resources and disregard its wild life. A crisis is often a sound corrective to public thinking, and a crisis was at hand.

"Drainage in the early 1900's, followed by drought in the 1930's -- the most protracted in our man-recorded history -- dried up tremendous areas of what had been important nesting grounds in the north, rest areas along the flyways, and wintering resorts in the South. In Oregon, previous to the drainage of its Lake Malheur and Klamath Basins, great numbers of waterfowl were hatched each year; but its two great duck and goose hatcheries were drained as dry as a bone. In the Dakotas, for lack of water, residents were shooting domestic livestock. Waterfowl mortality in parts of the central North American breeding areas reached a peak never before known. Dried pot holes and small lakes were littered with the putrefying bodies of young ducks. Some died in their nests; others perished in traveling overland with the adult birds in search of food and water. Those that survived were forced to abandon large areas that formerly had offered haven. Going southward, the perishing birds found thousands of ponds and lakes dried up where formerly they had been able to rest and feed.

"The real decline was, nevertheless, not apparent to many sportsmen, for there naturally followed a concentration of birds on the few areas remaining habitable, which in many instances caused a misunderstanding of the seriousness of the decrease in the waterfowl population. Large concentrations on the few available water areas obscured the progressively diminishing productivity of the breeding areas, although the systematic studies conducted by the Biological Survey demonstrated clearly that the decline was taking place with an increasingly accelerated speed. Even when the reduction in waterfowl numbers became conspicuous and unmistakable throughout the United States, the residents of many local communities, because of the abnormally large concentrations with which they were favoured, could not believe the reports of disaster being circulated by the Biological Survey and by many sportsmen and conservationists. News of these isolated concentrations gave rise in some instances to the erroneous belief that the hereditary flyways were changing."

It is but fair to add that an aroused public opinion has resulted in extensive work costing millions of dollars being undertaken for the restoration of breeding grounds and the control of water areas. This, with the hunting restrictions in effect, should do much to restore the declining duck population.

Regulated Game Preserve Areas

Since early summer the Department has been working on a scheme to improve hunting conditions in the south-western part of the Province where climatic conditions appear to be favourable to the propagation of upland game birds. The plan had a twofold purpose, namely, to promote better relations between the landowner and the sportsman, and to permit intensive re-stocking through concentration on certain desirable areas. With this purpose in view a plan to set aside a number of regulated game preserve areas, composed of various townships or organized groups of contiguous

farmers, was developed. Officials of the Department visited the different areas and explained the scheme to Township Authorities with the result that some 25 Township Councils and one organized group have passed resolutions requesting the Department to place the scheme into effect in their respective municipalities.

The plan contemplates the prohibition of hunting in each regulated area except as follows:

- (a) Pheasants on days to be designated.
- (b) Jackrabbits between December 1st, and February 28th, next following, where it is established that the spread of these animals ought to be controlled on any such area.

As open seasons for pheasants are usually proclaimed during the latter part of October, it will be obvious that neither hunting period occurs at a time when damage is likely to accrue to either crops or live stock, and as a further safeguard, regulations will be provided prohibiting the discharge of firearms within 100 yards of any buildings. The chief obstacle to free hunting in the past has been the damage caused to private property, by certain irresponsible hunters who, by their careless methods, and lack of appreciation of the privileges afforded them, broke down fences, left gates open and frequently destroyed live stock. The result was a spirit of antagonism toward all sportsmen, and a general posting of lands with "no trespass" signs, which only served to further limit the recreation of the decent sportsman.

The problem is one for mutual understanding and good-will between the farmer and the sportsman and the co-operation of both with the Department of Game and Fisheries. All three groups have an interest in the available game. The farmer owns the habitat, the sportsman pays for game propagation and protection while the game itself is the property of the Crown and the necessary regulation and control is administered by the Department. Obviously then all three must co-operate if successful hunting is desired. Our experience with farmers is that they are quite willing to permit the good sportsman to hunt on their lands provided proper care is taken to protect their property. They are, for the most part, hunters themselves and appreciate the fact that they too, must have access to private, as well as public lands, in order to take full advantage of their hunting privileges as citizens of the Province. In order to afford them as much protection as possible it is necessary to restrict the hunting and keep a reasonable check on the hunters.

The Townships which have signified their willingness to adopt the scheme of controlled hunting have been designated Regulated Game Preserve Areas. In each case signs have been posted around the area intimating to the public that in that particular section hunting is prohibited except as proclaimed by the Department of Game and Fisheries. The open seasons con-

templated by the Department are a brief period of two days during the fall for pheasant hunting and a continuation of the community sport of "jack rabbit drives", where such is necessary to keep the "jacks" under control. The period for the latter would extend from December 1st to February 28th.

Closing the areas for the better part of the year will serve to eliminate most of the promiscuous hunting, involving a great deal of poaching, which is the bugbear of the farmer and all good sportsmen. The pessimist will immediately reply "you'll never stop the poacher." Knowing the frailties of mankind and remembering that with all our efficient and effective police systems we have never been able to stamp out crime, we realize that the task seems hopeless. Nevertheless, because of the fact that for the major portion of the year, hunting will be prohibited in regulated areas, residents and non-residents of the Township will be in a position to effectively deal with anyone seen carrying a firearm within the area during the time when such is prohibited. A large number of Deputy Game Wardens are being sworn in for each area and a report to any of these men, to the Provincial Police or to the regular Overseer will bring the necessary results. No, we may not be able to stamp out the poacher, but in these regulated areas, with the co-operation of the public, we ought to be able to reduce this evil to a minimum. A gun license is merely an authority to hunt where such is permissible and confers no rights where it is prohibited.

As a further measure of protection to the farmer against irresponsible hunters the regulations governing a controlled area contemplate the issuing of special hunting licenses by the controlling organization, which may be the Township or an organized group of farmers. These will only be issued in the event that an open season for pheasants is declared by the Department, and will be restricted in numbers according to the number of birds available. Identification of any hunter doing damage to property will be possible from the particulars on the special license tag, and from the official gun license button, both of which must be worn in a conspicuous place on the person. Residents and non-residents alike will require both of these identification features so that anyone not provided with the proper tag or button is hunting illegally on such territory, and is liable to prosecution. Controlling indiscriminate hunting and the number of hunters in any area during an open season and providing an easy means of identification should do much to eliminate the grievances of the farmer landowner against hunting over his lands, while the special fee collected from the sportsman, and which goes to the Municipality or the farmers of an organized group, should provide some compensation for any damage that may occur to property, and insure the sportsman against embarrassment through being forbidden to hunt on private lands. We believe that farmers will find this scheme affords them that measure of protection which they have long desired, and that sportsmen will appreciate its advantages and co-operate to make it a success.

To ensure that game will be available the Department has released several thousand pheasants in these controlled areas, in addition to those

raised from eggs supplied to private individuals. Many of the Townships involved were already stocked with birds and represented some of the best pheasant territory in the Province. By concentrating on these regulated areas, rather than scattering the available birds over a large section of southern Ontario thereby thinning the numbers in most Counties below the point where hunting is desirable, it is believed a sufficient quantity of birds will be raised to warrant an open season. It is unlikely that the bag limit will include anything but cocks. Continuous replenishment of the stock will be part of the plan so that an open season simply means a temporary reduction of the surplus stock. In other words protecting the hens will maintain an ever-increasing brood stock and the surplus destroyed during a shoot will be replaced to take care of the next open season.

As already suggested the success of the plan depends on the co-operation of farmer and sportsman. The interests of the former will be more effectively protected and the latter will be assured of reasonably good hunting under more pleasing circumstances.



An Appreciation

Public service is synonymous with "knocks" rather than bouquets. The control which is essential to the proper administration of a trust, such as our wild life resources, is often irksome to those who object to anything in the nature of restrictions on their so-called "liberties". As a consequence, enforcement frequently results in irritation. For this reason we are always glad to receive a letter such as the following from a gentleman living in Brunswick, Ohio. He writes, "For ten years I have been coming to your Province to do my fishing and the courtesy and consideration extended to me by the officials of your bureau and the citizens of the various communities visited has been very gratifying to me."

"Thanks a million", Mr. ———.

The Questionnaire

By E. L. Newton

*If, on some morn when ricks of corn
'Neath gems of white frost glisten,
While speeding north I'd call you forth,
I wonder if you'd listen
To tales of fens and sheltered glens
Where stout old bucks are fretting,
And—need enough—on jack pines tough
Their antler-points are whetting—*

*If I should write to you tonight
A teasing tale, confiding,
Of balsams green and in between,
The furtive quarry hiding;
If I should tell of dale and dell,
Of wide unbroken reaches,
Of hoof-marked trails that, from deep vales,
Lead out to yonder beeches—*

*If, with a pair of comrades rare,
Good nimrods, hale and hearty,
I'd halt before your cabin door
And bid you join our party;
If I should speak of lofty peak
That dares the stoutest climber,
Say, would you drop your cares and hop
Aboard once more, Old Timer?*

*If by some chance of circumstance
The month should be November
And I'd recall some other fall
That we would both remember,
And memory true should paint a view
Of dark, deep dales that beckon;
Of campfires bright at edge of night—
Old Pal, you'd come, I reckon.*

Minnesota-Waltonian



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

November, 1937

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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CONSERVING the natural resources of a country is a patriotic duty devolving upon every citizen. Nature's gifts have been lavishly bestowed upon us. The wealth of land, water and mine is the basis of our national prosperity, and any scheme which would conserve that wealth must of necessity be the concern of the individual as well as the crown. It matters not in what phase of our natural resources we are primarily interested; wild life, agriculture, forestry, mining, there is the same urgent need for using every means in our power to see that these sources of wealth are protected from unwise use through lack of knowledge or excessive greed.

The wild life natural resources of the Province of Ontario are the concern of this Department, but as they constitute an asset of tremendous importance, economically and recreationally, the duty of protecting these resources becomes the responsibility of every citizen. You probably never gave this phase of the matter any particular thought. Protection, you reasoned, was something for the game warden to worry about, and so long as you observed the laws you felt that you had done your duty. To that extent of course, you had shown good sportsmanship, but to be effective your interest must be active rather than passive.

There are many phases of conservation which individual effort can stimulate. There is, for example, the force of public opinion which largely determines the success or otherwise of public policy. The legislation embodied in the Game and Fisheries Act, is a sincere effort to ensure that a valuable asset will be wisely administered in the best interests of present and future needs. Public support of these regulations is necessary to successful administration. The abuses which characterize lack of observance of the laws which govern can largely be eliminated through education and co-operation. The good sportsman will do his share in furthering the one and ensuring the other.

Much is being done to promote conservation, secure perpetuation, and provide a larger variety of available wild life. Nevertheless, the progress of civilization tends to destroy rather than develop and so a ceaseless and vigorous united effort is necessary to maintain what we have and build up for future needs. Such co-operation is the patriotic duty of every citizen.

The Open Season on Confiscated Equipment

During the latter part of October the Department opened up the secret

archives in its storage vault and displayed to the public view a varied assortment of firearms, fishing tackle, traps, etc. It was the occasion of the annual sale of confiscated articles, and represented in some measure the vigilance of the protective officers in enforcing the provisions of the Game and Fisheries Act. For three days the public was invited, through notices in the press, to inspect the various articles and submit a sealed tender for any or all of the equipment. The stock included, 100 .22 calibre rifles, 44 rifles of heavier calibre, 44 single barrel shotguns, 19 double barrel shotguns, and 3 repeating shotguns. The balance of the goods consisted of 17 fishing rods with reels, 3 tackle boxes with contents, 12 flashlights, 5 axes, 3 lamps and lanterns, 12 wooden duck decoys, 10 haversacks and packsacks, 1 club bag and 600 animal traps.

An inspection of the guns on display revealed a very formidable collection of antiques and moderns. The small rifles ranged from the cheap single shot variety popular with boys to the more expensive repeater. Some of the former fairly breathed of romance, adventure and feats of daring. There was, for example, that little "scout", showing signs of lack of care, but proudly carrying on its stock about a dozen notches in the most approved Alger manner. These notches may have represented imaginative enemies slain by the skill and courage of the youthful sniper. On the other hand they probably referred to the depredations of the owner among protected game birds. The fact that the gun was confiscated shows that the youth was using it for illegal purposes.

Then there was the cheap little single shot that looked like a toy. Its construction was such that it appeared to be falling to pieces. Here and there it was held together with haywire, and its crudely-shaped stock, fashioned from a very light wood, barely provided sufficient holding surface. Nevertheless it once had a young owner, to whom it was a modern scientific weapon, and whose pride of possession led him into difficulties.

Beside it was another single shot of a little more expensive type. It had evidently been tended with loving care, for its metal parts glistened and the wood had a polished surface. Fastened to it was a shoulder strap, which gave it a military appearance. Truly a weapon to fire the imagination of any boy and to start him out on the broad highway of misdirected adventure.

The small rifle with the plated barrel which stood out so proudly and distinctively from the other sombre black barrels had a story all its own. It was a gift from father to son, and its silvery coat was evidence of paternal skill. It wasn't a costly weapon, but its trimmings gave it an aristocratic appearance. Alas, the way of transgressors is hard, and this proud beauty found itself numbered, recorded and exposed to the crude jests of prospective purchasers, because its owner took a chance when the Game Warden happened to be around. The heavier calibre rifles and shotguns lacked romance. They were too sophisticated and looked as if they knew what it was all about. They had a shame-faced appearance, however, as they stood guiltily in that

long row of sombre-looking weapons. Obviously, they were there because their late owners wilfully set out to break the law. Law-breaking lacks glamour. The poacher may for a time steal a march on the decent sportsman, but sooner or later he is exposed for what he is.

It was more difficult to imagine any particular adventure or thrill in connection with the fishing tackle and other miscellaneous goods. The equipment looked cheap and ill-cared for, as if completely ashamed of its part in the illegalities leading to its confiscation. The flashlights and lanterns suggested the midnight marauders who take advantage of the blackness of night to lure their prey to destruction by artificial lights. It is a nefarious means of hunting and fishing without any redeeming features.

Among the traps were two of very large size with tremendous holding possibilities. Attached to each by means of a short length of strong chain was an anchor of steel hooks. These traps were formidable enough to hold the largest of our game animals, and their very appearance filled one with awe.

On the whole this annual sale of confiscated articles is an eye-opener. It shows that the enforcement officers are zealous in the discharge of their duties, that they are on the job day and night, and that the life of the poacher is a precarious one. There is probably some excuse for the misguided activities of youth, for youth frequently lacks knowledge which unwittingly leads to breaches of the law. For the poacher there can be no sympathy. He deliberately sets out to take a mean advantage of his fellow-men by illegally converting to his own use what is the rightful heritage of all. It is our common duty to protect that heritage.

No Rabbits—No Coats ?

"A rose by any other name would smell as sweet", has been paraphrased to read, "A rabbit by any other name would be a luxurious fur coat or neck-piece for milady." That is the conclusion reached by the American Wildlife Institute which, as a matter of information to the public publishes a list of more than 60 common trade names under which rabbit and hare pelts find their way to the fur market. "Beneath such high-sounding names as Baltic White Fox, Chinchillette, Mendoza Beaver and Polar Seal, for instance, will be found a rabbit or hare skin," says the Institute. "Baltic White Fox is nothing more than natural rabbit or natural white hare. Chinchillette is chinchilla-dyed rabbit. When the pelt of the rabbit is sheared and beaver-dyed, it becomes Mendoza Beaver and Polar Seal skin comes not from the Polar branch of the circus and stage struck family, but is merely rabbit, dyed and treated to resemble the skin of a northern fish eater." In the same vein it continues. "Rabbit pelts, after different treatments and under various other trade names, reach the market in imitation fox, leopard, lion, tiger, mole, ermine, sable, mink, muskrat and squirrel."

Publishing information such as this is a matter of education rather than

an attempt to reveal trade secrets. Where a fur is described by a name other than the common name of the animal from which it is manufactured the real name of the fur should be disclosed. This would prevent misrepresentation in the carrying on of a legitimate business.

Our interest, however, is inspired by the knowledge that the lowly rabbit, which sportsmen literally kick around from "Pillar to Post", has such tremendous economic possibilities. It is a branch of the fur-bearing family which has enormous recuperative powers. Its fecundity is such over a period of years that Nature herself takes a hand in controlling the breed, and thins out the surplus crop by means of a periodic disease. Eliminate the disease, control the hunter, and there would soon be enough pelts to provide chinchillette coats for every lady in the land. By that time, however, the question of coats would be subservient to the problem of self-protection. You see there is a balance of Nature which must be respected or trouble will follow, and the potential destruction by a plague of rabbits would be just as disastrous as a plague of locusts.

Rabbit hunting is a favourite activity of Ontario Sportsmen during the fall and winter months. The "Jack" is probably the most popular of the species because of its size and the open country it inhabits. Its long and powerful legs propel it at tremendous speed and the difficulty of hitting such a fast-moving target intensifies the pleasure of the hunt. The Jack does not readily capitulate. It has power and stamina which provides an excellent defense against all but the most experienced. The varying hare or snowshoe rabbit on the other hand, has quite a burst of speed, but lacks the reserve power and physical courage of the Jack. It succumbs readily. In fact we have seen it collapse on occasion when it looked pretty much as if it had died of fright rather than from any serious damage from shot.

The cottontail and the hare are in about the same class from the sporting standpoint, although the former provides a measure of additional sport to those who enjoy hunting with ferrets.

Hunters should realize that, despite the fecundity of the rabbit, there is just as much danger of exterminating it through needless waste as any other species of game. This is particularly true in the more populous areas of the Province, where hunting is heavy and habitat restricted. Game which provides such healthy outdoor recreation at a minimum of expense, is worth conserving. Remember, the ladies of the family may want Baltic White Fox neck-pieces or Polar Seal Coats. "No rabbits—no coats"!

The Value of Public Opinion

Many people, who take but a superficial view of the matter, believe that all that is necessary to eliminate and control the ills which afflict organized society, is to enact regulatory laws designed to take care of the problem, or problems involved. Laws are essential and necessary to good government,

but they are not in themselves a panacea for all the troubles which beset our social and economic systems. Experience has demonstrated that the fewer the laws and the simpler their enactments to cover any particular subject the more willingly are they observed and the more effective is their enforcement.

The Game and Fisheries Laws are necessary to the proper administration and perpetuation of our wild life. They are designed with a view to providing the greatest possible individual liberty consistent with the wise use of the resources involved. These laws are respected by a large majority of the citizens of the Province and their observance becomes more and more, a passport to good sportsmanship. However, despite their simplicity, we still have the law-breaker, the man who continues to ignore legal restrictions and thereby takes unfair advantage of those who "play the game". The sale of confiscated articles referred to on another page shows that the enforcement officers are alive to the situation, and leaving no stone unturned to convince the law-breaker of the error of his ways. It is too much to hope that we can entirely eliminate this pest, but there is good reason to believe that through our united efforts we can do much to show the careless and the thoughtless that the observance of the Game and Fisheries Laws is just as important to our moral standing as a proper respect for other laws, the breaking of which would mean social suicide.

There is a specific purpose behind all laws. Criminal Laws are intended to protect society; social legislation to benefit, and national enactments to ensure peace and good government. It is a fact however, that while legislative bodies may devise and proclaim laws, peace officers enforce them and the courts punish for abuses thereof, the weight of a favourable public opinion is the best guarantee of the success of any law. Many laws which benefit society as a whole do not directly affect every individual. The man who is not immediately benefited may be inclined to ignore constituted authority, but he has a wholesome respect for the opinion of his neighbour and friends. In other words public opinion has a restraining influence over him.

From time immemorial many laws, such as those against public morals, have had the special backing of organized effort, religious and educational, and their importance to humanity thereby emphasized. Young and old, for example, have been taught that it is wrong to steal. This pernicious practice carries with it a moral turpitude quite apart from any punishment under the law. Most people are bitterly opposed to stealing, even when they are not directly affected, but their resentment is keener when public property is involved. Wild life is public property, and the man who takes more than his legal share or takes it by illegal methods, is breaking one of the moral laws, we hate to call it by its proper name, for he is depriving both present and future generations of a rightful heritage. Public opinion has a very restraining influence over those who are tempted to break any law, while moral support will nearly always ensure its success.

We are happy to say that the sportsmen are becoming more conservation-minded every day. They realize that legal restrictions are necessary to wild life perpetuation; that unlimited or illegal taking spells disaster; and that the future of hunting and fishing is a matter for individual, as well as organized, co-operation. The moral influence that might be exerted by such a body of interested individuals in the prevention of petty infractions and major offences against the Provinces' Conservation laws is tremendous. Let us try this moral suasion on those who ignore the regulations, however petty the offence may appear.

The Danger of the .22

Almost 70 per cent of the rifles offered to the public at the recent sale of confiscated guns were .22's. It was evident from their general appearance that many of them had been used by boys, and it is safe to assume that these lads, besides being unacquainted with the game laws, or careless as to their observance, knew little of the real power of a modern .22. This little rifle is really one of the most deadly firearms on the market. Its price range and cost of ammunition place it within the reach of most prospective sportsmen and this fact intensifies the danger from its indiscriminate use. In the hands of a careful and experienced hunter this danger is negligible, but where the gun is used without due regard to its range and penetrating powers it becomes a menace to human life. Of course, all firearms carelessly handled constitute a source of danger, but the .22 being easily available to the novice is used for a variety of purposes for which it never was intended, with a consequent reduction in the safety factor.

It never was intended, for example, that the .22 should be used for wing shooting. The chance of hitting a flying bird is very remote, and the bullet, travelling with a muzzle velocity of over 1,000 feet per second, and a carrying capacity of close to a mile with an elevated barrel, is liable to end its mad flight by doing physical or material damage. A recent test with a .22 to see how far it would really shoot showed that with the barrel elevated 17° above the horizontal the bullets were dropping two-thirds of a mile away. The ammunition was the ordinary Long Rifle and not of the Hi-speed variety. A little reflection will recall that an angle of 45° is half-way between horizontal and vertical, and that 17° is considerably less than half of that distance. In other words 17° is a comparatively small angle. When, therefore, the rifle is elevated to shoot at a bird on the wing, or perched on the limb of a distant tree, and the bullet misses its mark, the danger to anyone in the line of flight more than half a mile away is real. If you are addicted to this practice it might be wise to pause and reflect on the serious consequences of any mis-adventure arising from this cause. Reports frequently appear in the newspapers of mysterious shootings with .22's, and when these are traced to their source it is generally found that the careless use of the rifle in the manner just suggested was the cause of the accident. It is a wise rule, therefore, never to shoot in any direction or at any object until you have noted where your bullet may take effect.

It will help us to a better appreciation of that advice if we consider for a moment the range of the .22. The following information has been gleaned mostly from an article by Robert Page Lincoln, a well-known authority. A .22 Long Rifle, rim fire cartridge loaded with smokeless powder will drive a 40-grain bullet through the gun barrel and out with a muzzle velocity of 1,050 feet per second over a 50-foot range. When the barrel is elevated the final resting place of the bullet may be a mile or more away. It is not suggested, of course, that the gun is accurate over this distance, but the very uncertainty of the flight merely increases the danger. The dependable range of this bullet is approximately 200 yards, but its velocity is such that at a distance of between fifteen and twenty feet it will penetrate through five one-inch boards. The lesson to be deduced from this fact is that when using the rifle for target practice the back stop should be stout enough to take care of this penetration, or of such a nature as to absorb the bullet.

The .22 short, rim fire cartridge, loaded with the same powder but carrying a 30-grain bullet has a muzzle velocity of well over 900 feet per second, and with proper elevation has a range of approximately 1,000 yards. While its penetration at the same distance is but half of that of the Long Rifle, it is still effective and dangerous.

We have been speaking, of course, of the ordinary classes of ammunition. Modern science has produced new high-speed and higher-power .22 calibre shells, some of which have a 50 per cent increase in power, a 25 per cent increase in velocity, and with a much flatter trajectory or path of the bullet. This is a highly effective shell when properly used, but its very effectiveness only serves to add to the danger of careless or inexperienced handling.

The .22 is an excellent rifle for the hunting of small game animals, or vermin. Used as such with the discretion necessary to the handling of firearms of any description, it need offer no more hazard than other rifles of a higher calibre, but because of its extensive use by young and old as a utility gun its status is not satisfactory. Its general use by boys should be discouraged, unless knowledge and experience are combined with the natural enthusiasm of the boy for possession of a gun. There are more heartaches wrapped up in a carelessly handled .22 than in most other forms of youthful indulgences.

Concerning Hunting Costs

An irate hunter telephoned the Department the other day complaining that he was now forbidden to hunt over certain areas where he has for years been in the habit of pursuing game, and requesting to know what use was a gun license if the Department was going to placard the shooting areas with signs prohibiting hunting. His sneering laugh when we suggested that we were merely attempting to provide better shooting under conditions which would be acceptable to both the hunter and the land-owner, afforded proof of his lack of sympathy with any attempt to curtail his liberties even on private lands. His assumption was that the gun license for which he pays

the Department \$1.00 was a permit to wander unchallenged wherever he pleased in search of game. It is astonishing how many irresponsible hunters have this idea, notwithstanding the conditions of the license which clearly set forth that the owner is entitled to hunt where hunting may legally be carried on. Technically speaking, this would apply only to public lands, not specially protected, for the Department cannot authorize hunting on private lands unless with consent of the owner.

When we suggested to our irate telephone friend that he could hunt rabbits in the area he was concerned about if he had procured the necessary license from the Township authorities, he immediately asked about the cost, and on being informed slammed up the receiver with an angry comment.

It was evident he believed this special municipal license for controlled hunting was an imposition. As a matter of fact it is a sign of the times and a natural result of changed economic conditions. The propagation of game for sporting purposes would be useless without the necessary facilities for its development. While game is the property of the Crown, the land is mostly privately owned, particularly in the southern part of the Province. The sportsman has no rights over private lands, although for generations he has been privileged to pursue his quarry with but few restrictions. Agricultural development, scarcity of game and greatly increased numbers of hunters have, however, raised the problem of private property rights as applied to public ownership of game and made it necessary to work out some scheme of mutual co-operation between those who desire to hunt and those who can provide the facilities for so doing. The scheme of municipal control through the issuing of special licenses, while not a complete solution of the problem, is at least a serious attempt to handle a difficult situation.

So far as the question of cost is concerned, the Ontario sportsman seems to be in a favoured position compared with hunters in European countries. The system of private preserves for commercial purposes in vogue in most of these countries prevents the average sportsman from enjoying many days afield. We have before us, for example, an article on grouse-shooting in Scotland, which appeared in the Sunday Post. It opens by asking the question, "Is grouse-shooting an expensive sport?" and then proceeds to answer it. "If," says the writer, "you take the probable kill on a 3,000-acre moor at 300 brace, reckon that the tenant probably paid 500 pounds (approximately \$2,500) for his privilege, and as much more for costs, transport, beaters, ponies, dogs and what not, you find that the hypothetical 300 brace is going to cost about 1,000 pounds (approximately \$5,000)! A little over thirty shillings (\$7.50) for each bird."

"Or, again, you may make arrangements to get a week's shooting for which you may be charged about 30 pounds (\$150) which includes high-class board and lodging." It is well to note that the writer makes no mention of such additions as travelling expenses, equipment, etc., which would add considerably to the cost of the week's sport. The following is a typical

advertisement taken from a recent issue of a sporting magazine. "Gun wanted, pheasant shoot, hundreds of rabbits, Saturdays, near Horsham, over 700 acres 27 pounds (\$135) per gun—8"—Another advertises "Three days' grouse driving and two days' low ground shooting weekly for a fortnight or three weeks. Terms 25 guineas (\$130) per week per gun, to include beaters, etc."—These quotations give a general idea of the conditions which prevail.

Of course, we are not unaware of the fact that even in Ontario there are certain exclusive private hunting clubs which are expensive, but hunting such as may be enjoyed by the average sportsman in this Province from the standpoint of cost is simply not available "over there". Grouse moors and deer forests are capitalized and commercialized under game management conditions, which put a premium on general hunting activities. True, the private propagation and protection which game receives under such a system ensures a generous supply during open seasons to the extent, apparently, of doing away with bag limits. However, we doubt very much if this unrestricted taking would appeal to our conservation-minded sportsmen. Pelee Island is perhaps our closest comparison with grouse moor conditions. Birds are exceptionally numerous on the Island, and yet we heard a sportsman friend admit, after a shoot, that the ease with which one can obtain his limit detracts somewhat from the thrill of the sport. Pelee Island hunters pay \$3.00 for a two-day license and quite evidently get sufficient birds to satisfy their sporting propensities. If one forgets the bag limits or available bag, which, after all, should be and are but a means to an end, and views hunting from the standpoint of healthy outdoor pleasure, then the cost to our Ontario sportsmen is negligible.

The establishment of regulated areas wherein propagation and protection receive adequate attention through the mutual co-operation of the Crown, the landowner and the sportsmen, and shooting privileges are made available for a small fee, will solve most of our difficulties.

Pelee Island

To those unacquainted with the conditions of natural development the pheasant situation on Pelee Island is both unique and baffling. The island itself is not more than nine miles long and less than four miles across at the widest point, according to a scale map, yet for several years past, between eight and ten thousand pheasants have annually been taken from this area during a brief open season of from two to four days. This enormous take has occasionally caused certain well-intentioned individuals to criticize "such wanton slaughter of a beautiful bird". Well, individually, certain weeds are beautiful, but collectively they become a serious menace, and common prudence calls for their eradication or control. An overgrown weed patch will present a more varied assortment of beautiful colours than an area planted with the more prosaic, but infinitely more useful field crops which provide food for man and beast. That, by analogy, is the situation which results in the annual pheasant shoot on Pelee Island.

There are certain factors that enter into the development of all wild life; habitat, climate, food, predators. In the case of Pelee Island all of these conditions are extremely favourable. The island is flat, open country with very little bush. Because of this, predatory animals are practically non-existent, and predatory birds so scarce as to be negligible. Criss-crossing the island are more or less dried-up drainage canals overgrown with weeds and berry-bearing bushes. On either side of the roads which bisect the township are deep ditches covered with luxuriant growths of weeds and grass. The cultivated areas are mostly bounded by rough hedgerows made necessary by their proximity to the drainage ditches. The crops consist chiefly of corn, tomatoes and tobacco. The island is the most southerly point in the Province of Ontario and its climate therefore is not severe. Summing up the natural features from the standpoint of the pheasant we find the conditions excellent. The environment is such as is usually associated with the propagation of the ring-neck; low-lying swampy land, with an abundance of vegetation, and in the immediate vicinity an area under cultivation. This habitat provides splendid cover and an abundance of food. The absence of predators is another important factor in promoting development, while the climatic conditions seldom interfere with the food supply.

To this pheasant utopia some two dozen birds were introduced about 1927, being shipped in from the State of Michigan. To give them a chance to increase a five-year close season was established. In order to appreciate what this might mean in the way of development one must remember that wild life reproduces very fast. For example, "it is estimated", according to the Maryland Conservationist, "that if a pair of cottontail rabbits had complete success in rearing two litters of six young each season, there would be 98 rabbits the second year, and 33,614 the fifth year, and so on. If a pair of bob-whites had one brood of 14 chicks each season, there would be 128 birds the second year; 65,536 the fifth year, and so on." These estimates are, of course, based on the most favourable conditions, and envision a development unchecked by human or natural forces. Fortunately the increase is checked by wastage through predators, parasites, disease, weather, accident, hunger, thirst, etc., a wise provision of Nature to prevent disaster. Nevertheless, it gives some idea of the reproductive capacity of wild life.

In the case of pheasants the increase under like conditions would be equally astounding because the ring-neck provides a nest of about 20 eggs and hatches a large majority of them. In fact, there are sometimes two hatches during the season. With the very favourable conditions prevailing on Pelee Island, aided by a five-year close season against hunting, it was natural that there was a tremendous increase during that period. The menace of thousands of pheasants on a small area resulted in serious damage to crops. The island was literally swarming with these beautifully plumed birds, but because of the destruction wrought they afforded little or no aesthetic pleasure to those who suffered thereby. The pheasant had become a mild plague, and plagues must be controlled.

It was under these circumstances that the idea was conceived of commercializing the pheasant situation. Non-resident sportsmen were invited to the island for a couple of days' hunting and were charged a reasonable fee for the pleasure of so doing. The results of the first "big shoot" were so satisfactory to the sportsmen and the islanders that it was evident Nature had provided a valuable asset instead of a liability. The returns from the sale of licenses and the entertainment of visiting sportsmen were more than sufficient to take care of any damage the birds might do. Capitalizing on this experience, the Township Authorities decided that it would be good business to protect the brood stock and control the increase by an annual regulated shoot. Perpetuation was provided for by making the bag limit consist of a majority of cock birds. And so, instead of destroying nests, eggs and birds, with the same satisfaction that the farmer destroys the potato bug or the corn borer, as they had been wont to do, the natives develop the crop and harvest the result to their mutual advantage.

This is the same system of game management that prevails in most European countries, except that Pelee Island prefers to sell its coverts to hundreds of nimrods rather than to lease its shooting rights to a few wealthy individuals. The bag limit to the individual is both modest and reasonable, and the resources of the island capable of standing the drain. The cumulated bag of the sportsmen for the two days' open shoot seems heavy and might to the uninitiated appear as wanton destruction but, despite the heavy take there are just as many birds escape as fall prey to the guns of the hunters.

Although open seasons have been proclaimed on Pelee Island for a number of years, the past season is the first which has brought any complaints to the Department over the arrangements made. A very wet spring this year interfered with the annual hatch and reduced the number of available birds. Because of this fact it was deemed advisable to limit the season to one period of two days instead of having two different seasons of two days each. The result was a tremendous influx of hunters at one time, with accompanying annoyance because of limited transportation to, and accommodation on the island. The large number taking part in the shoot made the conditions somewhat congested and narrowed the scope of operations of the individual hunter.

In view of the conditions which prevailed it appears likely that some method of control will have to be adopted whereby only a reasonable number of hunters will be allowed to take part in the shoot on any one day. This may call for a limitation of the number of licenses to be issued, or a quota system designating the dates upon which they may be used. It may also be necessary to restrict the hunter to one shoot per season, when two distinct open seasons are provided. Control such as this appears to be necessary in the interest of all concerned, and to ensure perpetuation of the sport. So long as the foundation stock is preserved and natural conditions remain un-

changed, there will always be a large available supply of birds on Pelee Island.

Friendly Beaver

Two miles south of the village of Orwell is a mill pond owned by Mr. F. W. White, in which there is a colony of Beaver. Having business with Mr. White one day, we learned that he was friendly with the beaver, and that he had been feeding them daily for several years. As a consequence they had become so tame that he was able to pick them up and handle them much as a small boy might handle his favourite dog. This sounded so interesting to us that we requested permission to accompany him on his evening visit to the dam. Mr. White readily acceded to our request, and so we arranged to meet him later on in the day.

It was growing dusk when Mr. Brown, the Overseer, and I, joined Mr. White and proceeded to the beaver dam. Arriving there we found a varied assortment of food such as apples, grain and screenings from the mill scattered around. There was also an old chair with a school bell and a comb lying on the seat. We were curious about the bell and the comb, but decided the best way to find out their use was to "wait and see".

Our host informed us it was still a little early for the beaver as they worked mostly at night, and seldom came out of their den until it began to get dark. We therefore inspected the dam, and marvelled at the engineering skill of these energetic fur-bearers.

Now our host picked up the bell and began to ring it lustily, following this up by calling loudly to his unseen friends in a very coaxing manner. "In about two minutes", he assured us, "if the beaver are still in the dam"—they often wander further afield—"you'll see them swimming across." It was a tense moment. We remained perfectly quiet, almost doubting that what we were anticipating would come to pass. At short intervals our host rang the bell and continued to call on his pets to come over and eat.

For the sake of accuracy let me say that it was probably nearer ten minutes later when we noticed the first beaver swimming under water in our direction. As it neared the bank it came to the surface, and finally waded ashore where we were standing. Our friend began to renew the one-sided conversation, and the beaver, quite undisturbed by either the noise or our presence, waddled up on the beach and commenced eating the food scattered around.

Continuing his friendly appeal, Mr. White went up to the beaver and began stroking it as one might a cat. Then he gently slapped its sides, grasped its large flat tail, and held it up so that we might see it better. The beaver, meanwhile, continued to eat quite undisturbed. Our host suggested that we might try the petting process. "but," he warned "speak to it as you approach". We picked up the comb, opened up a rapid-fire conversation

intended to dispel any doubts as to our friendly intentions, and stepped up to the beaver. It kept on eating, apparently unmindful of our approach. For two or three minutes we combed that valuable pelt, stroked the glistening sides, and examined the trowel-like tail. It was a fascinating experience when one considers that beaver are usually unapproachable. "They get very nervous," said our friend, "if you step between them and the water", saying which he walked behind it, and the beaver immediately turned and went back into the water. It was probably just the instinct of self-preservation, on finding itself shut off from its native element. As the beaver swam away Mr. White threw it a branch of leaves and twigs which it grasped and swam off with towards its den.

"There are other two, they must be around somewhere," remarked our amateur Grey Owl, as he set off to explore the bank, while we followed him. A moment later we found number two. He was half-way out of the water eating some grain that had been left on the bank to attract ducks. This beaver also responded confidently to the voice and advances of our host. Then we discovered that the third animal was now on the bank where the first one had visited us, so we returned there and witnessed a repetition of this unusual friendship.

Mr. White is a real Nature lover, in fact he communes with Nature. Every evening he trudges over to the dam with a basket of apples, quartered for convenience, or perhaps a supply of grain as a change in diet, and rings his bell to call his pets to the evening meal. Then he sits on his rickety chair and in a soothing voice renews his friendly invitation. The beaver are soon eating out of his hand or resting contentedly under his tender caresses. These animals have so much confidence in their benefactor that the presence of strangers does not alarm them so long as he is present. They will not, however, respond to the call of a stranger.

On one side of the dam is a hardwood bush into which Mr. White invited us to follow him, the while he pointed out certain beauty spots and Nature signs. There are several deer in this bush, and while he has never been able to get close enough to handle them, he told us they would stand within a short distance of him, apparently listening to every word he said.

It was a most interesting experience, and we came away marvelling at this man who through patience, perseverance, and an inherent love of Nature has won the friendship of these creatures of the wild to a remarkable extent.—*J.M.*

Pollution

The necessity for conservation and all it implies in the way of protection and re-stocking, is vividly pictured as the result of a recent happening on the American side of the Niagara River. There, through some misadventure, the water in a certain section became polluted with poison from industrial waste and, according to press reports, conservation officials estimated

that "more than 500,000,000 fish were killed and floated ashore". That is a tremendous waste when one considers how unnecessary it is. We have not, of course, checked the accuracy of the report, but assuming the figures to be approximately correct we find that the loss represents more than the total distribution of all kinds of fish from the various hatcheries of the Province of Ontario during 1933, and is just slightly less than 5/6 of the total distribution for 1936.

Disregarding the economic value and assuming that a large percentage of the fish were small, the loss in food value to other fish is a serious matter. We know that only a very small proportion of either fry or fingerling reach the adult stage because they are the prey of all other predaceous fish in search of food. The inscrutable law of Nature provides for this condition and uses it as a means of maintaining a proper balance among the species. When one recalls that one female fish will provide thousands of eggs yearly one can readily understand that some fish must of necessity be destined as food for other fish if the cycle of propagation is to function properly in a limited environment. The destruction of so many small fish through poisoning will, of course, considerably reduce the available food supply and hamper progressive development in the area.

The pollution of rivers and streams as a result of industrial neglect or social necessity is a problem of great importance to anglers. These rivers, which once flowed clear and cool and teemed with animate life now, in a great many cases meander sluggishly along because of drainage conditions, and in their course become receptacles for the refuse of civilization. Is it any wonder fish succumb and depleted conditions exist? The Fisheries Act, a statute of the Federal Government, provides certain penalties for wilful pollution by industrial waste, but in most cases the damage is not wilful, but is caused through the lack of knowledge or inadequate measures for prevention. When specific cases are brought to the notice of the industries concerned, an attempt is usually made to remedy the situation. More attention however, will have to be given to the question of the disposal of trade waste and refuse, if we are to maintain a suitable environment for our fish life.

The outbreak on the Niagara River should again forcibly remind us that to conserve our resources, and maintain an adequate supply for present and future use, is not merely a matter of hatching and planting fish, but involves propagation, regulation, environment, co-operation, industry and science.

Pennsylvania's Deer Problem

Last month we commented on the deer situation in Pennsylvania and mentioned that in certain Counties of the State the Commission had decided that a special open season on antlerless deer was necessary to properly control the herd. In the interval it seems that sportsmen from the northern counties presented a petition to the Dauphin County Court asking for an injunction to prevent the carrying out of this open season. The court allowed the petition, and the Commission has this to say on the matter:

"The action of the Dauphin County Court on the petition of sportsmen from the northern counties came as a disappointment to the Game Commission; also it will be very disappointing to more than fifty thousand hunters who have obtained antlerless deer permits, and to thousands of others who had hoped that the surplus deer herds might be controlled properly."

"The Commission simply attempted to do what is believed to be to the best interest of all concerned. If the Dauphin County Court next Monday decides to grant a permanent injunction, the Commission will yield and refrain from carrying this case to the higher court. To do so at this late date would merely add much more needless confusion."

This incident but serves to further emphasize our oft-repeated assertion that the problem of wild life administration is very involved and is further complicated by the differences of opinion which exist among those most interested.

The Jaw-Bone of a Trout

"With the jaw-bone of an ass have I smitten a thousand men," said Samson, as recorded in Judges 15:16. With this almost superhuman feat of Samson we are not concerned, we mention it merely to draw attention to the fact that the utility of jaw-bones—apart from their usefulness as important cogs in our physical machinery, dates back at least to the days of the early Christian era. This reference to jaw-bones has been suggested by a recent intimation by the American Wild Life Institute that scientific gentlemen who spend much time in research work have found a brand new use for the jaw-bone of a trout. It appears that these gentlemen were engaged studying the damage done to fish by predaceous animals and birds. In the course of their investigations they examined the stomachs of animals and birds who have appetites for fish, and learned a great deal about the number of fish required to satisfy their hunger. Unfortunately a knowledge of the numbers consumed did not enable them to arrive at a definite conclusion as to the exact damage done, so it was necessary to devise some way of determining the sizes of the fish eaten. With mathematical skill they assembled certain conversion tables based on biological knowledge. With the aid of these tables the investigators can take the length of a jaw-bone of a trout and immediately determine the size of the fish of which it was a part. By this method it is possible to figure the number of legal size fish taken by predators, and also to prove from the remains when game law violators have dined off undersized fish.

You Poor Fish

We have always been exercised to know why the expression "You poor fish", hurled in terms of argumentative finality at an opponent, should have been considered either descriptive or applicable. Now we know! Speaking at Nottingham University the other day at the British Association for the advancement of Science, Professor James Gray, of Cambridge University, said, according to the press report: "Many of us have a natural but deep-rooted feeling that man stands alone. We are convinced that Shakespeare's plays constitute a level of mental achievement unknown to any other species of animal. Nevertheless, in all its essential parts, the brain of the fish is the same as that of man"!

This explains why some fish are stupid while others display an inordinate cunning and remarkable fighting qualities.

THE SPORTSMAN

By Edgar A. Guest

The sportsman gives the game a chance, and if the bird can win
He has a happy tale to tell at night when he comes in.
The sportsman sees a larger thing than victory or gain,
He'd rather never take a prize than have it with a stain.

The sportsman knows and heeds the rules. He will not stoop to take
A mean advantage of his foe, though victory is at stake,
He'll give his rival every chance to beat him if he can,
He'll battle for the goal he seeks, but battles as a man.

The sportsman has a code to which he clings in spite of all,
He may be hungry but he will not keep a trout too small,
He may be facing failure, but he'll face it with a grin,
And he will not strike a coward's blow or break a rule to win.

Oh, son of mine, when hope grows faint and bitter is the fray,
Stand up and take the punishment in honour's sporting way.
Play fair with man and bird and beast and keep your head erect,
'Tis better far to lose the prize than lose your self-respect.

—*Pennsylvania Game News.*



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

December, 1937

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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MONTH after month during the past year we have been suggesting what we believed were the responsibilities of the sportsman in the matter of personal restraint and co-operation with all those who are working for the perpetuation and improvement of our game and fish resources. This has undoubtedly resulted in a great deal of repetition, for the programme of conservation, so far as the individual is concerned, has no complicated theories. We make no apology however, for emphasizing through reiteration the importance of personal conduct. Constant friction will wear down the hardest substance, and frequent repetition of an important truth will inevitably make an impression on a mind that is receptive. We hope that you, Mr. Sportsman, have realized that your responsibility for the improvement of your sport does not end with the purchase of a license, where such is necessary, or by a superficial observance of the regulations.

As the old year passes and the new year breaks on the horizon of time, let us take stock of ourselves and see how we have measured up to the code of ethics implied in the word "sportsman". If the result of the examination shows a lack of regard for certain essential principles, then the time is opportune for resolutions of readjustment. We again suggest that the following be included:

Resolved—

1. That I will protect the rights of my fellow sportsmen by observing the various regulations governing the taking of game and fish, realizing that any excessive or illegal taking on my part lessens the opportunity of others to secure the fair share that rightfully belongs to every citizen.
2. That I will by precept and example endeavour to spread the ideals of conservation and the ethics of sportsmanship with a view to eliminating illegal practices.
3. That I will respect the rights of property owners and seek by courtesy and co-operation to retain the good will of the farmer, so that the existing liberties of the sportsman may not be impaired.
4. That I will assume a personal responsibility for the protection of our wild life resources so that my children will be assured of the same recreational privileges that I have enjoyed.
5. That I will encourage all organized effort that has for its object the protection of game and fish and also co-operate with the Department of Game and Fisheries to that end.

Conservation, Past, Present and Future

As we write this the year 1937 is rapidly drawing to a close. The thought always inspires us with feelings of regret; regret that time is remorseless in its flight, that each New Year, with its hopes and aspirations, is but a stepping-stone to a predestined end; that there is so much worth while to accomplish and so little time to realize the ambition. A rather melancholy thought we admit, and yet it springs mostly from concern over three specific factors, namely, past, present and future. Generalizing on these three thoughts would provide material for many volumes, so we propose to confine our musings to a discussion of our wild life situation.

The natural resources of a country are the basis of its wealth and the prosperity of its people is largely dependent thereon. The products of land, forests, mines and water are the foundation of all created wealth, as well as the essentials of human existence. It is obvious, therefore, that the wise use of these resources is, and should be, the concern of all right-thinking men. The problem of how best to conserve our heritage, for natural resources are a wise provision of the Creator for our comfort and convenience, is the most important problem facing us today. In a recent address President Roosevelt said, "The Conservation of our natural resources and their proper use constitute the fundamental problem which underlies almost every other problem of our national life." Without attempting to be technical or to do more than touch the fringe of the subject, let us attempt to view the situation as it applies to our wild life, and from a study of conditions past and present, try to determine the success or otherwise of modern methods of control.

Past

It is a far cry back to the year when Columbus discovered America, but being in a retrospective mood, let us bridge the gulf of time and visualize wild life conditions as they were then. It is recorded that the famous explorer and his crew found a land of boundless forests abounding in wild life, song and game birds; that through these forests flowed hundreds of streams of clear, sparkling water; and that these streams teemed with fish. It was, as we view it, a fisherman's paradise, a hunter's utopia, and the dream of a naturalist come true. Canada being part of the North American continent, we may safely assume, without becoming statistically tiresome, that the same conditions prevailed here.

The development of the Dominion is a matter of history, and outside the scope of our discussion except in so far as that development affected our wild life resources. The early settlers in the Province of Ontario found conditions in forest and stream very favourable; fish and game were plentiful, and provided a substantial amount of the food consumed. The actual settling of the Province: the hewing down of the forests, the building of cities, towns and villages, the construction of roads and railways, the growth of industry, and so forth, had an adverse effect on wild life through the

destruction of habitat, the pollution of streams, etc., while the growth of the population and the development of weapons of destruction also began to make inroads on the game and fish resources. All this, however, is too well known to need further comment. What is not so well known is the tremendous waste that was practiced through a mistaken idea that the Creator had provided an inexhaustible supply; through lack of control, and through a desire to get rich quickly in a new and promising market. That this condition existed half a century ago, and that out of it grew the Department of Game and Fisheries and all it stands for, is a matter of record which is available for purposes of comparison.

In 1890 a Royal Commission was appointed to study the situation as it affected the Game and Fisheries of the Province, and many old-timers will recall the exhaustive manner in which this body carried out its task. From the report presented by the Commission we learn the following facts: "In some counties in the Province the deer are almost extinct. Illegal killing of deer is practised by all classes of the community, and the law regulating the number of animals to be killed each season by each hunter and which is popularly known as the 'party clause' is entirely and utterly disregarded. At present the enforcement of the law is not the particular duty of any particular person, and it is found very difficult for that reason to reach those who break the law. If the deer in Ontario are worth preserving they must be preserved thoroughly, and this should not be delayed for a single day. The extent to which the game birds of the Province are being slaughtered for exportation to the United States of America is almost incredible. Boys are hired by stage-drivers, train-hands, commission merchants and others to bring in as large a supply as possible, and the extermination goes on incessantly, although the price paid for the birds brought in is often hardly enough to pay for the powder and shot used in their destruction. Much game is sold out of season by game and fish dealers, under the pretence that it has been imported."

"The extent to which fishing is carried on in the close seasons is alarming, and the exposure of fish in the markets of the larger towns and cities of the Province during the close season is open and defiant. The extent to which netting is carried on is also inconceivable, and the spawning grounds are stripped year after year, until in many places, where fish abounded formerly in large numbers, there is no yield now at all. The evidence taken points to the fact that nearly all the waters in the Province are more or less depleted. Many fish are destroyed by camping and fishing clubs, for the mere sake of making big catches, so that the number of fish taken are far in excess of what is required for food purposes. Sawdust, dynamite, improper fish-slides, indiscriminate netting and the cutting down of shade trees have all done their deadly work."

The information we have quoted represents extracts strung together from a very comprehensive report. The many recommendations made by the Com-

mission for the improvement of conditions are the basis of our present Game and Fisheries Laws. Our purpose, however, in quoting these extracts, is to make a comparison with past and present conditions and to endeavour to show that because of the establishment of a permanent Commission, to be followed by a Department of Government—Game and Fisheries—because of the introduction of proper conservation measures and the appointment of enforcement officers; because of the progressive efficiency of administrative departments and the co-operation of sportsmen, individually and through organized effort, the canker of fifty years ago which was ravaging and despoiling has been checked, and wild life is slowly but surely recovering its wonted health and vigor.

Obviously, depletion of fish or scarcity of game, where such exists, is not of recent origin, but is a condition extending over many generations. Lack of suitable laws and an almost entire absence of enforcement prior to the period we have been discussing led to an appalling waste through unbridled destruction. For example, the "party clause" governing the killing of deer referred to by the Commission probably explains in part why "in some counties of the Province deer are practically extinct", to again quote from the report. The section referred to reads as follows: "No person shall, during any one year prior to the year 1895 kill or take alive more than five deer; and no two persons hunting together or from one camp or place of rendezvous, or forming or being what is commonly known as a hunting party shall, in any one year prior to the year 1895, kill or take alive more than eight deer; and no three or more persons hunting together or from one camp or place of rendezvous, or forming or being what is commonly known as a hunting party shall, in any one year prior to the year 1895, kill or take alive more than twelve deer", etc. The act was wide open, for, as the Commission reports, "By subdividing into smaller parties, and by joining more than one party in a season, sportsmen are enabled easily to avoid the law in question and many more deer are therefore killed than the law allows." In 1892 the Act was amended to establish the limit at 2 deer per person, while by the same amendment a permanent Commission was appointed to take control and provide remedies to succor the ailing patient. This Commission functioned for some 13 years, during which time it sought to improve the protective service as an aid to law enforcement, and from time to time made minor changes in the laws. It was replaced in 1905 by the Department of Game and Fisheries, which Department continues to administer the laws to the present day.

Present

With the establishment of the Department of Game and Fisheries, wild life administration entered into a new phase of regulation and control. As the report of the Commission of 1892 suggests, it was faced with a condition which required complete readjustment. Some of the problems it met were laxity of enforcement; waste and extravagance; the attitude of the public towards game and fish, and, as a consequence of these, a growing

scarcity which, in many cases seemed to indicate a state of depletion. The Commission which functioned prior to the Department assuming control had made "some advance in law enforcement, but little in law improvement", vide Commission Report 1931-33. The story of the intervening years from 1905 to the present time is too long to permit us to do more than glance at the highlights. Laws were amended and improved from time to time. A staff of permanent enforcement officers was organized and properly supervised. Bag and creel limits were established more in keeping with the available resources. Open and closed seasons based on biological knowledge and practical experience replaced the former haphazard methods, while statistical information was obtained through the returns from license holders. To ensure the permanency of game and fur bearers large areas of Crown Lands were set aside in northern Ontario, and within recent years this practice has been extended to include private lands in Southern Ontario, through the co-operation of the landowners. The total of such lands, upon which hunting is prohibited, now amounts to well over six million acres.

Re-stocking of the waters of the Province has received considerable attention through the establishment of a Fish Culture Branch and the acquisition of some twenty fish hatcheries in addition to numerous trout and bass-rearing ponds. This work is conducted along scientific lines and in keeping with modern practice.

Within this period there has also been born a sentiment in favour of conservation which is spreading with gratifying rapidity. Sportsmen's organizations have been formed all over the Province with a view to protecting the game and fish resources, and these are co-operating with the Department to the same end. The work of educating the public to a proper appreciation of the economic and recreational value of our wild life is greatly facilitated through this organized effort, while the ethics of sportsmanship as practised by the individual have greatly improved.

The problems of the present, however, are more complex than those of the past. The development of the country industrially and agriculturally, the advance in methods of transportation, increased numbers of hunters and anglers—including non-residents—together with the efficient and effective equipment which is now available, have added to the difficulties which beset those responsible for maintaining the supply.

Summarizing present conditions, however, we find reason for renewed optimism. The public never was more conservation-minded than it is today. True, we still have the poacher and the irresponsible fish and game hog, but with active enforcement and an enlightened public opinion their depredations have been considerably reduced. The evils of buying and selling have been eradicated and wholesale slaughter brought within reasonable limitations. The restrictions imposed under the Act are timely and effective, while the protection afforded during closed seasons is producing excellent results.

Searching for something definite to confirm our opinion we notice several encouraging facts. In 1892 the Commission reported that "In some counties of the Province deer are almost extinct." That situation does not now prevail. There are few counties in Ontario today that are not well supplied with deer. Many of these have been closed to hunters for a number of years and will probably remain so for a further period of years; nevertheless, the fact remains that deer are now more plentiful in southern Ontario than at any time during the past twenty-five years.

The sportsman of today will find, in greater or lesser quantity, and particularly in the settled districts, practically every game bird known to the earliest settlers, with the possible exception of the carrier pigeon, and, somewhere in the Province every game animal, excepting the buffalo, which is a Federal charge. In addition, several species of game birds previously unknown to the Province, have been introduced within recent years. The English Ring-necked Pheasant, for example, has been added to the game list. During a period of fifteen years the Department has distributed almost 262,000 pheasant eggs for hatching and has released some 20,579 birds. This year an open season on pheasants was declared in 23 Townships and two Counties in addition to Pelee Island. The Hungarian Partridge has also been brought into the Province during the past few years, and is already sufficiently well established in certain sections to warrant an open season.

Probably no upland game provides more or better recreation for the sportsman than does the rabbit. Within the last two decades the European Hare, or as it is better known, the "Jack Rabbit", has been introduced to the Province and thoroughly established itself as a splendid game animal.

Almost fifty years ago the Commission reported that nearly all of the waters of the Province were more or less depleted of fish. In 1912 the Evans Commission, another research body, made this statement: "The accessibility of Ontario and the excellence of her sporting fisheries in the past have already built up for her no inconsiderable angler-tourist traffic, but so many of her water areas have already become more or less depleted that the complaints of visitors are to be heard on all sides, and had she not possessed such a vast number of waters to draw on doubtless a diminution in the yearly traffic would already have occurred. From the returns of the \$2.00 non-resident angler's tax it is certain that at least 20,000 anglers visited the Province from outside during the past season, but it is acknowledged that as yet the collection of this tax has by no means been perfected, and consequently the actual numbers of tourists who angled in Provincial waters was assuredly very much greater than this figure."

These statements are important because they show that intensive protective and re-stocking measures were necessary. In the intervening period the attention of the Department has been focussed on this problem and the present conservation laws and hatchery activities are the answer. In addi-

tion to the protection and propagation of the native game fish a number of different species of sporting fish unknown to the Province a quarter of a century ago have been introduced, and are being cultured by the Department. Some of these are the Brown Trout, and a close relative, the Loch Leven Trout; three varieties of Rainbow Trout, namely, the Steelhead, Shasta, and a species of fall spawning Rainbows; the Kamloops Trout, closely related to the Rainbow, and the Landlocked Salmon (Ouananiche). The Steelhead Rainbow has become established, while the Brown Trout may be taken in certain streams in Southern Ontario. Both are providing considerable sport for the angler. The other species being more recently introduced are passing through the initial stages of production and development. We believe these operations have met with a large measure of success and have done much to improve the conditions complained of. The process of social and industrial development has changed the environmental aptitude of many streams and lakes and reduced their capacity to maintain desirable species of fish life. Nevertheless depletion generally has been arrested and the process of building up is well under way.

It can be said also that complaints from visitors are not numerous despite the fact that their numbers have increased tremendously since 1912. As proof of this it is noted that the returns from non-resident anglers' licenses in that year, as previously quoted, were \$40,000, while in the fiscal year of 1936 they were in excess of \$270,000. Tourist returns for 1937 will show a large increase over 1936. These facts are significant, and show that despite many additional difficulties, despite the tremendous increase in the numbers of those who hunt and fish, despite the conflict of opinion which exists as to the best methods of perpetuation and control, a measure of success is being attained which bodes well for the future.

Future

The success of any endeavour will be in direct ratio to the amount of effort put into its attainment. The success of the movement to conserve our wild life resources will depend upon individual as well as collective co-operation. It is not a programme destined to curb and restrict the liberties of the sportsmen, but rather, through wise control and effective restoration, where such is possible, to make available a perpetual supply for the use of this and future generations. The more or less unbridled license of the past nearly decimated a valuable asset, and the moral is too obvious to require elaboration.

It is pleasing to note that conservation is today the password to good sportsmanship. It implies individual responsibility for the protection of a great public heritage. This necessarily involves personal law observance and the discouraging of illegal practices by others. The ethics of sportsmanship demand fair play, and no man who does not observe the rules has any right to consider himself as measuring up to the required standard. The cumulative effect of minor infractions may be just as destructive as open defiance.

We note, however, that the effect of organized effort along educational lines has been to create a new appreciation of the value of our wild life and the problems involved in its perpetuation. These problems are not superficial, nor can they be completely solved without taking into consideration the many factors which enter into them. A knowledge of wild life conditions and the inter-relationship between the species will help us to understand the difficulties, and convince the sportsman that he cannot evade responsibility for the development of his sport or the protection of the resources which make it possible. In such a spirit, with a constructive programme of conservation as a base and an enlightened public opinion to back up our efforts, we can look forward to the future with confidence and feel that the darkest days have passed, the dawn of a new era has arrived!

A Healthy Programme of Reforestation

We have frequently stated in the Bulletin that reforestation and restoration of swamp areas are important projects in any scheme which has for its object the improvement of wild life conditions. Both schemes, of course, have a much wider purpose and application but it is not our intention to discuss them here. The plans for replacing what we have heedlessly destroyed and of restoring natural conditions as far as possible are important planks in the platform of every well-managed game protective association. Behind newspaper intimation that the Counties of Grey and Bruce have both embarked on a reforestation scheme whereby 1,000 acres will be purchased and restored to forest conditions as part of a general plan for adding to the forest acreage in each County, is the story of the activities of the Grey and Bruce Fish and Game Protective Association.

This Association, comprising eight affiliated organizations from various parts of Grey and Bruce, has for several years been working on a comprehensive programme of reforestation to assist in the work it is doing to conserve the fish and game resources of the two counties.

In order that the work might not be haphazard a comprehensive survey of conditions in Grey County was made and it was found that the forested area in the County was down to 14 per cent. Discussing this condition, Dr. Douglas, the President, said: "There are two options; if on one hand all of our forests were cleared and all our swamps were drained we could only expect seasons of eroding, raging torrents and water famine, or on the other hand, if we had all forest growth there could be no agricultural production. The best results must come from proper balance between forested and cleared land. We have determined the best ratio for this district to be 30 and 70 per cent respectively."

The work of accomplishing this objective was energetically carried on and as a result of these activities so much enthusiasm for the project has been developed throughout the county that the success of the plan within a reasonable number of years is assured. As an inspiration and incentive

to other protective associations we have pleasure in printing extracts from a report by Dr. Douglas on the methods followed and the results hoped for.

"We are now assured," says the Doctor, "of at least 2 per cent of total area planting each year, against which we may expect 1 per cent cut off. At this rate we will add 16 per cent in 16 years, bringing our total forest areas to 30 per cent. At this time our springs should again be naturalized." Recalling the steps taken the writer proceeds:

1. "We formed a forestry committee within our Association.

2. We staged an elaborate essay contest for all 4th class students of Grey and Bruce, giving 12 excellent prizes for the best essays on the subject, 'The Benefits of Ideal Forest Conditions to the Farmer and district generally'. These essays were done at home with the help of parents, and we calculate that 15,000 district residents became interested in reforestation.

3. We enjoyed fine co-operation from the press of our district, many times they published their and our stories of forestry conditions.

4. We had very fine help from the Department of Lands and Forests. On many occasions good speakers gave fine illustrated lectures to our many interested service clubs, church clubs, young farmers' associations, etc. We also carried on this work with local speakers from our Association.

5. We made direct contact and appeal to our County Councils. Again we were greatly indebted to Mr. A. H. Richardson, M.A., M.F., Chief Forester, who ably presented the propositions to the County Councils.

Another venture of 1937 we are pleased about is our forestry along the upper end of the Sydenham River. For four miles we planted rooted carolina poplars on both sides of this stream. We had a 100 per cent catch which in three years will completely shade the area.

Also we are working hard on restoring the Luther Swamp and William's Lake to former water levels. In each case it is a matter of re-filling ditches, and we hope for results in 1938. We will then start proceedings to restore Proton and other swamps and some of our other district lakes.

If we can restore our planned 30 per cent of forest and swamp we should at least double our present number of suitable speckled trout streams, all of our fish areas will be greatly improved, by being restored to natural conditions, and we will be properly equipped to co-operate with the Department of Game and Fisheries in its splendid programme of fish culture.

It is pleasing to note the recent efforts of the associated Boards of Trade and many other Ontario agencies towards reforestation. The cycle of restoring natural conditions seems to be with us. I hope it stays till re-naturalization is complete, and may we always remember not to again deplete our forests and swamps."

The Recent Deer Season

The recent open season for deer was a highly successful one. Reports to the Department from sportsmen and overseers indicate that, on the whole, deer were more numerous in certain sections than last year. While this may, in some measure, have been caused by a natural movement of the herd, it is reasonable to assume that the comparatively mild winters of the past two years, together with the protective measures in force have resulted in increased reproduction. We are referring, of course, to those areas where hunting was legal. Speaking to our Inspector, who was stationed at a strategic point on the highway to check hunters returning from the north, he advised us that the consensus of opinion was that there were more deer seen than ever before. One party returning with a complete quota told him that they saw eleven on the last day before coming out. A Deputy Game Warden with whom we were discussing the hunt said, "I have been hunting deer for 17 years and never saw them so thick as they were this year." These and many other reports are very pleasing, indicating as they do that the deer herd, with a reasonable measure of protection, is capable of replenishing itself despite natural and unnatural enemies.

Of course, we dare not assume that every hunter returned from the chase with a deer, and from this we might also infer that many who were unsuccessful might not be inclined to accept the general opinion. However, the experienced hunter knows that not every man who sees a deer can bag it. In this regard we are reminded of the incident told us by the Inspector already referred to. It seems that he stopped a car with four Americans in it and made the usual enquiries. They were laughing hilariously as they assured him their deer was on the trailer behind. Upon investigation he discovered that their bag consisted of a rabbit with a deer coupon conspicuously attached to its neck. Further enquiry revealed that they had seen several deer but couldn't get them, nevertheless they were quite happy over their experience. In contrast to this is the success of another party of three non-residents. They went into the bush under proper guidance and were returning home in great glee because each had a bull moose to show the folks "back home".

Damage by Deer

Frequently application is made to the Department for compensation for damage done to crops or other private property by deer. The damage to crops is seldom very material, although it is occasionally represented as being substantial in order to create the impression of hardship. That deer in excessive numbers, however, can be a real menace to farm and forest is shown by experiences in many places where artificial protection is, or has been, carried to extreme.

In a recent issue of the Bulletin we mentioned the increase of deer in the Scottish Deer Forests and quoted an authority to the effect that unless the numbers are artificially decreased in the near future, the deer is going

to disappear completely. As an aftermath of the situation we find trouble brewing in the land of the heather. The National Farmer's Union of Scotland, according to a newspaper report, is calling for a conference of various interested Associations to again discuss the question of damage by deer. They have presented a resolution to the Conference, deploring delay on the part of the Government in giving effect to the recommendations contained in the majority reports on certain Acts, concerning game and deer forests. In addition, however, they recommend that "the owners of deer forests should be compelled to fence their forests with deer proof fences where the forests adjoin arable or grazing land." The resolution, however, goes a step further and proposes that "occupiers of agricultural or grazing land, including hill grazing and heath or plantation, should be entitled to kill and take deer found on lands other than certified and licensed deer forests by any means and at any time, excepting between August 1 and October 31—that, in brief, deer should, by law, be classified as ground game, and that the Ground Game Act should be strengthened accordingly." In other words, deer found outside the licensed deer forests, where they have been developed in ever-increasing numbers for private sport, should be placed in the same category as other destructive vermin. That the problem is a real one is noted by the admission by Sir John Milne Home that "owners of deer forests had deplored the damage done by deer which strayed on to arable land, and he understood committees had been formed in Highland Counties to try to deal with an admitted evil." The situation is acute when it can cause so much furore.

Much the same situation prevails in Pennsylvania where, by an Act passed in 1925 the farmer was given authority to protect his property against damage by deer, by destroying the deer. In the decade between 1925 and 1935 there is a record of some 10,485 deer having been killed by farmers as a protection to property.

The conservation measures in Ontario do not contemplate the development of deer to the point where they can be classed as vermin and destroyed just as casually. The open season in the northern woods would lose much of its charm for most sportsmen if the deer were so thick that the chase became a mere slaughter. (We can safely make that statement, without any suggestion about being apologetic, after our opening remarks regarding the increase in our deer herd). The sportsman today is not so much interested in the kill as in the chase, although his pleasure is intensified when his efforts are rewarded. Meat, however, is not the primary consideration. Health and "the pursuit of happiness" are the lures which beckon the good sportsman from the artificialities of life to the soothing influence and restful atmosphere of Nature. Wild life is but a means to an end, an incentive to physical and mental relaxation. Let us view our fish and game as such and the question of supply and demand will be largely solved.

"A-Hunting We Will Go"

In a spirit of family pride, Moses, while recounting the names and

achievements of his ancestors, tells us that Noah had a great grandson named Nimrod who "was a mighty hunter before the Lord"; thus we have the origin of the word "Nimrod" as commonly applied to the hunter. The mighty hunters of the past were poorly equipped in comparison with the modern sportsman, yet the degree of skill in the chase attained by those early nimrods was remarkable. Some time ago we came across an article on "The History of Hunting", in the Pennsylvania Game News, and we acknowledge our indebtedness to that source for much of the specific information contained herein.

The hunting of wild animals as a necessity or for recreation or amusement has been a favourite occupation of man since early times. Prehistoric man is nearly always depicted as returning to the cave bearing upon his shoulders a creature of the wild. A rough spear or a crude bow with which he has evidently subdued the game are always prominent in the picture. Whatever the means and the methods adopted, he was eminently successful; he had to be to live!

Classic art and literature present many examples of the popularity of the chase. The great Diana, in whose honour was erected the temple at Ephesus, was the Roman Goddess of hunting. She was frequently depicted grasping a deer and displaying a bow and quiver as a symbol of her power.

The earliest form of hunting of which there is record is the sport of falconry or hawking. This consisted of the practice of using hawks and falcons which had been trained to attack and bring down birds and small game. This sport was known to and indulged in by China's early civilization some 2,000 years B.C., while the people of Japan, India, Arabia, Persia and Syria were using falcons at least 600 B.C. Falconry was introduced to England about 750 A.D., and for many generations was the "sport of Kings." It is recorded that King Alfred the Great had "incomparable felicity" in hunting and hawking. This particular form of hunting became very popular, but during the middle ages it was the exclusive privilege of the aristocracy, and as a consequence the yeoman and peasants were denied the use of hawks or hunting dogs. Later on, hunting with falcons became more general, but the sport was hedged about with very strict regulations as to the class of hawk which each man, according to his degree and rank, might possess. It was possible therefore to determine the social standing of the hunter by the hawk or falcon he carried on his wrist. To us, in these democratic days, class distinctions are not so obvious, so it is quite interesting to note the scale of social standing represented by the various hawks used. Here is a partial list: "The Eagle and the Vulture for an Emperor; the Gerfalcon and the Tiercel for a King; the Falcon and Tiercel gentle for a Prince", etc., through the various ranks of nobility, down to "The Merlin for a Lady; the Hobby for a Young Man; the Goshawk for a Yeoman; the Tiercel of a Goshawk for a Poor Man; the Sparrow Hawk for a Priest; the Kestrel for a Knave."

After the Norman conquest in 1066, A.D., hunting became the sole privilege of the King and his nobles and the common people were forbidden by strict penalties to take part in the sport. A writer of that period says: "To gain the right of killing a partridge required fifty times the amount of property as to vote for a Knight of the shire, and under the Conqueror it was as great a crime to kill one of the King's deer as to kill one of his subjects."

The stringency of the game laws caused a great deal of trouble, and frequently drove the Saxons and the people in general into open rebellion. It was a brutal and overbearing situation calculated to breed discord, and many of them became outlaws rather than submit. In this latter class was the historically famous Robin Hood, a product of feudal overbearance. It is obvious that during this period the game laws in England were framed to secure to the landed aristocracy the exclusive right to take game, but these in turn must have the license of the King to hunt even upon their own estates. Hunting was the prerogative of the King, and the King's friends were greatly favoured.

However, the progress of civilization was not to be denied, and finally the ownership of game was transferred from the King to the Crown, representing the people and, still later, hunting laws were finally modified to include all classes of sportsmen. From a book on hunting written about 1550 A.D., open seasons for the various classes of game are given in the following quaint terms of the Church calendar:

"The time of grace beginneth at midsummer and lasteth to Holyrood Day. The fox may be hunted from the Nativity to the Annunciation of our Lady (March 25th), the Roebuck from Easter to Michaelmas; the Roe from Michaelmas to Candlemas (February 2nd); the Hare from Michaelmas to Midsummer; the Wolf, Fox and Bear from the Nativity to the Purification of our Lady."

The development of hunting implements from the primitive spear and crudely-made bow of prehistoric man to the modern, efficient weapons of today has, of course, radically changed the sport of hunting. The long bow was the principal weapon used by the hunter and the warrior for a period of more than a thousand years. In skilled hands it was an efficient and effective instrument of destruction and as all men between the ages of sixteen and sixty were compelled by law to practice archery many bowmen attained a remarkable degree of proficiency in its use.

Superseding the long bow came the crossbow. This weapon consisted of a bow fixed transversely upon a stock that contained a groove to guide the missile which it fired, together with a notch to hold the string of the bow when extended, and a trigger to release it. As a killer it was said to be less effective than the long bow, and a writer of the time described it as "a sorrow to sportsmen of the old school, as well as to those concerned for the ancient defense of the realm".

The introduction of firearms to Europe is roughly placed in the fourteenth century, but their general use was much later. As their construction and efficiency improved, the bows of pre-powder days were gradually discarded.

It is interesting to note that archery is a very popular sport at the present day, and like most other modern recreations is participated in by women as well as men. Competitions are held annually at the Canadian National Exhibition. The bow, however, is not used extensively in the field, although several States have reserved hunting areas for the sportsman who enjoys stalking his prey and testing his skill in this manner.

Modern hunting is a prosaic affair compared with the pageantry and splendor of early days. It needs little imagination to picture the royal hunting party setting out from some ancient castle with its grim walls and stately turrets, or perchance leaving the royal hunting lodge, set picturesquely in the heart of a magnificent forest, accompanied by a host of nobles in brightly coloured costumes little less attractive than that of the King himself, and waited upon by a retinue of handsomely liveried servants. Even the horses in this gay procession of pomp and power wore gorgeous trappings and strode along with a spirited action befitting the occasion. The well-trained hounds, chosen for the melody of their voice when in full cry; the music of the huntsman's horn; and finally the dashing, daring horsemen galloping frantically across country in pursuit of the noble stag, complete a picture of royal splendor and "hunting de luxe", which will probably never again be equalled.

Although modern hunting has lost all or most of the splendor of those early days because of changed social and economic conditions, it still has just as much attraction for the sportsman. The shack in the bush may not be a regal hunting lodge, but it has an atmosphere of friendship and congeniality not found in the mansion; the pallets of straw or balsam leaves may not have the luxuriance of the eiderdown, but to a body tired by the exertions of a long day in the bush they provide a rest which is both healthful and refreshing; personal adornment may lack in gaudiness but makes up for it in comfort, while the baying of the hounds is just as melodious to the expectant hunter as ever it was to the huntsman. But perhaps the most attractive feature of the changed conditions is that, because of development in transportation, good roads and equitable laws, what once was "The Sport of Kings" is now available to the humblest citizen.

Concerning Dogs

Speaking generally, everybody loves a dog of some kind, from the fragile toy pom. to the sturdy St. Bernard. There's a capacity for friendship in a dog, surpassing even the constancy of most humans. Every sportsman treasures a bird dog or a good hound. Of the two the former is, perhaps, the most interesting to watch and the most valuable to own. It displays through the training it has received, a high degree of intelligence. It not

only finds the birds for the sportsman but retrieves them for him after they have been shot. To see a good bird dog in action is to witness one of the finest displays of co-ordination and discipline, as between the dog and his master that the sporting world offers. The keen search, the excited leaping and bounding, and then the statuesque rigidity of the dog, with its nose pointed in the direction of the hidden bird it has located and its tail straight and stiff, while it waits the arrival of its master, are a joy to behold. This perfect control is maintained while the hunter flushes the bird and takes his shot, and is only relaxed by the leap to recover, at the word of command.

The actions of the hound on the field are not quite so spectacular as that of the bird dog. His training has been along different lines, and his work in pursuit of deer, rabbit or fox permits a wide range of travel, nevertheless there is a tremendous thrill of expectancy for the hunter as the familiar howl intimates that the quarry has been started and the chase is on.

This, however, is not to be an essay on dogs. Our object in writing it is merely to introduce our little gem of the month:

The Hunter's Dog

W. P. Wood

A hunter and his dog make a glorious pair;
No better friendship is found anywhere,
For they talk and they walk and they run and they play,
And they have their deep secrets for many a day.
That hunter's a comrade that thinks and that feels,
Who walks down the street with a dog at his heels.

He may go where he will and his dog will be there,
May revel in mud, and his dog will not care,
Faithful he'll stay for the slightest command,
And bark with delight at the touch of his hand.
Oh! he owns a treasure which nobody steals,
Who walks down the street with a dog at his heels.

No other can lure him away from his side;
He's proof against riches and station and pride;
Fine dress does not charm him, and flattery's breath
Is lost on the dog, for he's faithful till death.
He sees the great soul which the body conceals—
It's great to go hunting with a dog at your heels.

—*Louisiana Conservation Review.*

TO THE STAFF
THE FIELD FORCE
and
SPORTSMEN IN GENERAL
A
HAPPY NEW YEAR



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

January & February
1938

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Reflection and Anticipation

THE tumult and the shouting incidental to the birth of a New Year has almost been forgotten and as "time marches on" with footsteps which never falter—despite a yearning on our part that the giddy pace might ease up lest perchance we reach the end of the road before we have had time to appreciate the wonders of the journey—we pause to reflect and anticipate.

A very pleasing feature of the past year was the amount of publicity which wild life conservation received and the interest shown by the public therein. The spread of knowledge concerning conditions and the necessity for co-operation to ensure perpetuation was widely proclaimed both in Canada and the United States. In Ontario the work of the Protective Associations, naturalists and sportsmen generally has been most commendable, while the press has rendered valuable assistance. The Department has endeavoured to encourage and develop this educational work through close contact with the different associations, through the preparation and publication of suitable material and through a programme of public addresses delivered by members of the staff. This combined publicity and educational work has resulted in a changed attitude on the part of the good sportsman; he never was so conservation minded as he is to-day. It has also served to bring home to the individual the fact that wild life protection is a personal responsibility; that if he wants to continue to enjoy the healthful recreation for which fish and game provide the incentive and the reward, he cannot afford to stand aside and see these resources unnecessarily and illegally dissipated; that the conservation measures which are employed for restoration and control are important factors, under present conditions, for ensuring a reasonable supply in perpetuity and that the success of these measures depends upon his co-operation.

Possibly never before has the thoughtful sportsman been so conscious of the economic and recreational value of our wild life, and through this deeper understanding he has come to realize that preservation and restoration are complex problems which cannot be solved by mere propagation and planting alone. Entering into the development of desirable species of game and fish are such problems as, life history and the inter-relationship between the species; the necessity for proper habitat and environment; and effective measures for protection and control. The first is a problem of research, and includes the question of predators — unfortunately present knowledge is

limited. The second is quite important and embraces in its scope reforestation, water control—including levels, temperature and pollution—and the restoration where necessary of food and cover. The third concerns the individual and will be largely solved when law observance becomes the concern of everyone and the enforcement officers receive the solid backing which they deserve.

The year that has passed also saw a new development in the matter of control of indiscriminate hunting. In line with the desire to provide better hunting and maintain in large measure the privilege which sportsmen have enjoyed for generations of using private lands in pursuit of game, arrangements were entered into between the department and some two dozen townships whereby hunting in these townships would be restricted to certain open seasons for pheasants and rabbits and that only those who had the necessary license issued by the municipality would be authorized to take advantage of the open dates. This had the effect of creating these areas Regulated Game Preserves because of the fact that hunting was prohibited except when open dates were proclaimed by the department. These open dates were limited to a two-day pheasant shoot and a seasonal period during the winter for rabbit hunting. It had the additional effect of preventing an influx of non-residents to the area because the number of licenses issued was based on the number of available pheasants and only those with a pheasant license were permitted to partake in the rabbit hunting. The municipality collected a small fee for the license. The department stocked these regulated areas with several thousand live birds and hopes to largely increase its pheasant production and liberation this year.

Several specific and important results are anticipated from this arrangement. First, and quite important, is the fact that the farmer will not be subject to the expense and inconvenience of having irresponsible hunters tramping over his lands and damaging property during the whole gun license season. It is well known that the actions of a few have brought about a feeling of animosity between the farmer and the sportsman, a situation which threatens to put an end to free hunting. Those who obtain a license during the open season will be readily identified, and abuse of the privilege will mean prosecution and cancellation of any future privileges. As the carrying of fire-arms for hunting purposes within the area is forbidden, except during such open seasons as may be prescribed and then only under the authority of a special license, it is hoped to eliminate 90 per cent. of the poaching which otherwise takes place.

It is pleasing to learn that the open seasons established in these regulated townships were quite successful and have done much to stay the epidemic of land posting which threatened to seriously curtail the opportunity for hunting over private lands. It is not suggested, of course, that the present arrangements are perfect, experience will doubtless bring minor changes in control and regulation but the initiation of such a scheme will, we believe,

receive the approbation of every sportsman when its underlying benefits become better known.

During the year provision was also made to extend the facilities for fish culture. A new hatchery was completed and placed in operation near North Bay. At Sandfield on Manitoulin Island new bass ponds are under construction and one of these has been completed and placed in use, while at White Lake in Frontenac County two bass rearing ponds are now in operation, a second one having been added last year.

To stimulate the development of upland game, eight additional Crown Game Preserves were established in the southwestern section of the Province. This makes the total game preserves in the Province 116 with an acreage of well over six million acres.

With the groundwork of individual responsibility well established and the benefits of organized effort better understood, and with ever-increasing attention being given to modern methods of development and propagation, we anticipate that the future of wild life conservation will receive a new impetus, which will result in re-establishing this valuable asset on a permanent basis and thus ensure a reasonable supply for present and future use.

The Right of Every Boy

“Every boy in British Columbia should have the right to catch a fish and a big one.”

This statement is part of the comment of the Attorney-General for British Columbia when announcing the fact that the Pacific Coast Province was preparing to undertake an extensive re-stocking programme covering the waters adjacent to Vancouver; vide, press report! The idea is not new—conservationists have been expounding this theme for years in their efforts to educate the sportsman to a proper appreciation of his responsibility for the wise use of a heritage which at best he merely holds in trust—but it serves to remind us once more that in the consideration of our sport we must look beyond the narrow horizon of our own desires and make our control broad enough to include the future as well as the present. That boy of yours has a “right to catch fish” and his interest, as well as that of every other boy, in the wild life natural resources of the province is of paramount importance in planning for the proper utilization of these resources. Using this birthright wisely does not mean maximum present use—although we sometimes hear disgruntled individuals discuss the problem as if the future were of no concern—it does mean that we shall so use the resources which have been provided that their perpetuation will be assured and that posterity will not be deprived of its rightful share. That thought is the fundamental underlying the conservation movement and is just as sound as is the social custom of budgeting one’s income so that present expenditures will not hazard future security.

It is quite obvious that our wild life assets are abundant enough to take

care of future needs if we will use them wisely and according to the best principles of conservation and good sportsmanship. Fortunately we are dealing with a resource that will renew itself year after year if we but give it a chance to do so. The natural instinct of the wild is to reproduce and nature has provided that in most cases this reproduction is prolific. Other natural resources such as coal, minerals and metals are of limited quantity and when these are exhausted cannot be renewed, but the creatures of the wild are living, vital factors in the great scheme of creation and capable of perpetuating themselves. They cannot do this if the hand of man is ruthlessly pitted against them. It is true that man was given "dominion over the creatures", but this charge carries with it certain responsibilities which are essential to his own comfort and happiness as well as to the proper carrying out of his trust. One of these is the wise and proper use of the resources which have been provided and this, as has already been said, is the basis of all conservation laws.

But a properly balanced conservation programme, in so far as game and fish are concerned, does not stop at mere control through restrictive laws. It goes a step further and endeavours to assist nature to overcome the handicap which man's social and economic ambitions have placed upon her, by the artificial reproduction of desirable species, where such is possible, and where this is not practicable by affording complete protection so that nature may fulfil her purpose without any undue interference by man. From the standpoint of the sportsman all of these schemes are essential and their success or failure will depend upon the co-operation given by those most interested. The right to hunt and fish is the prerogative of every citizen of the province, but to indulge in these sports there must be an incentive. Too often the sportsman has a warped idea of what that incentive really is or should be.

The real fun of the great outdoors is not to be found in the kill but in the action leading up to it. The thrill of fishing is not in seeing the fish flapping helplessly in the boat, or squirming in the creel, that but signifies the end, for the fish! If fish were so plentiful that catching them was a mere matter of "throwing in and pulling out", as is sometimes the case with certain species of pan fish, there would be fewer enthusiastic fishermen. No, the greatest pleasures in fishing arise from the soothing influence of the outdoors, the thrill of pitting one's skill against a cunning, battling adversary, the anticipation of the strike and the excitement which follows the setting of the hook. The man who sees in fishing merely the act of catching fish is missing the superlative joys which the sport affords. The incentive to fishing is fish, but whereas the former represents the finest in outdoor recreation, the latter signifies merely a prospective meal. All of which gives us the opportunity to suggest once more that the sportsman can materially assist in the propagation and perpetuation of our game fish resources by taking only what he can personally use, irrespective of creel limits, and releasing uninjured any excess.

Almost every boy has a yearning to go fishing. The call of the wild is in his blood. The spirit of adventure is a predominating characteristic, and because of this he sees in fishing and hunting the open door to unlimited excitement. Where we have fallen down in the past is in not directing his energies along proper lines, in failing to teach him the rules of the game, and in permitting him through ignorance to waste and despoil. Yes, "every boy has the right to catch a fish", in fact he has the right to expect that fishing will always be available to him, but the realization of this right necessitates intelligent co-operation with those entrusted with the task of protecting his interests. He can only give this co-operation when he is familiar with the underlying conditions. The imparting of this knowledge is a responsibility devolving upon every sportsman. The boy needs to know the laws that govern, the open and close seasons which prevail, and the limits of size and catch. Even then his knowledge will be more or less useless unless he can distinguish between the different species. In addition to this he must be taught by precept and example that the ethics of sportsmanship play a large part in the proper control and development of his sport. Start your boy off properly, Mr. Sportsman, by taking him with you and giving him practical demonstrations on how and how not to conduct himself on lake and stream. He has the right to catch a big fish, but big fish grow from little ones, and if he unwittingly destroys the little ones his prospects of landing a big one are that much less.

Much is being done in a practical way to ensure that his birthright will be respected, but "the best laid schemes of mice and men" can easily be wrecked on the shoals of indifference or thoughtlessness. The forces that tend to destroy require perpetual supervision. The deliberate law breaker always has been a menace and no quarter should be given him, but while we rightfully condemn the plundering of this unscrupulous individual, let us not fail to keep an eye on the petty infractions, the cumulative effect of which may be very serious. The right of the boy, and all future generations of boys, to catch fish is conceded; the realization of that right, however, will depend upon the attitude of the sportsmen of to-day and the fishermen of to-morrow. Remember, the reservoir will not long remain full if the sluice gates are left open!

Sportsmen's Association Sponsors Educational Campaign

Speaking of the rights of the boy and the necessity for starting him off in his sporting activities with a knowledge of the value of our wild life and the necessity for conserving it, presents us with the opportunity of describing for the benefit of other associations a recent educational campaign lasting two weeks and sponsored by the Kent County Sportsmen's Association. The preliminary organization work was carried out by the energetic secretary, Mr. Cliff Dafoe, and local arrangements were made by the different affiliated clubs. The programme was featured by moving pictures of wild life obtained from the Department of the Interior, National Parks Branch,

together with a film on Fish Culture and Pheasant Raising contributed by the Department of Game and Fisheries. A projection machine was rented locally at a moderate fee for the two weeks' period. Through the co-operation of the school boards and the various principals, a schedule of meetings for pupils was arranged. Sometimes these were held in classrooms or auditoriums but on numerous occasions the pupils of the schools were assembled in some available hall in the community. For example, in Tilbury the pupils of three schools were marched to the local movie theatre, kindly granted gratis for the occasion, about 3 p.m. and between four and five hundred of them crowded into the building. In Dresden the town hall was used with success while in Wallaceburg the local Hydro hall was jammed to capacity.

The meetings lasted from forty minutes to an hour and the showing of the pictures was climaxed by a suitable talk on conservation, with a pointed message to the boys on sportsmanship and what it implied. Time was too limited, of course, to do more than introduce the subject but the manner in which the programme was received was very gratifying. Despite the temporary interference with the school curriculum the teachers were very gracious in their appreciation of the educational value of the meetings. During the ten days of the campaign the programme was presented to the pupils of about twenty schools and in every case the co-operation from the teachers was everything that could be expected.

In addition to the school meetings, public meetings were held each evening under the auspices of the local protective association. These were all well attended, despite many other attractions common to the social life of the various communities. At these meetings, in addition to the pictures, it was possible to elaborate on the advantages of "Conservation, Education, Recreation and Co-operation" in connection with our wild life resources. These four planks form the programme of the Kent County Association and provided suitable material for covering the ideals it was desired to put across.

Missionary work of this kind is seldom spectacular in its results. The seed must be sown before the harvest can be garnered. It was obvious however, from the amount of interest shown that much good had been accomplished. This was particularly true in the case of the boy. The young mind is impressionable and willing to be guided by reason and experience. An appeal to his sporting instincts and better nature is seldom unsuccessful. We believe, therefore, that the result of these meetings will be a deeper understanding among the boys of the value of our wild life, and the recreational pleasure which will be available to them provided the privileges connected with it are not abused. The development of proper ideals and practices in the boy, who will be the sportsman of to-morrow, will do much to ensure a perpetual supply of fish and game.

A great deal of newspaper publicity was given the campaign, both before and during the period while announcements of the meetings were made over the local broadcasting station. As a result of this publicity the clubs received

some splendid advertising and doubtless the membership will be boosted thereby. It is but fair to add that Mr. Dafoe, the secretary, was able to arrange his business affairs so that he was present at every meeting, and in addition to operating the movie projector, took numerous opportunities to stimulate club membership and organization, where such was lagging, in the affiliated clubs.

The department was invited to co-operate in the campaign by supplying a speaker, and this request was gladly acceded to.

Deer Antlers

The problem of how and why deer shed their antlers yearly and what becomes of the discarded appendages is one that lends itself to a great deal of discussion among hunters, and considerable theorizing among scientists. As a result of knowledge gained by practical experience in the wilds and considerable research work by scientists the various stages of antler development and discard are fairly well known while the natural changes which take place have been closely studied and explained by those best able to do so.

The subject has been brought to our attention once more by receipt of a letter from Overseer Sheppard of Gananoque in which he advises that on January 28th he found a pair of antlers on the ice surface of Charleston Lake. The antlers, according to the report, were from a six-year-old buck, and were found lying about seven feet apart. As the surface of the lake was covered with glare ice, a condition which came a day or two previously, and the antlers were not frozen in the ice, it is assumed they were shed by the deer about the time they were found. The shedding of the antlers at this late date may, or may not be unusual—it has been generally believed that they are cast around the beginning of January, although a number of factors such as climatic conditions and vitality of the deer may vary the period—but it is somewhat unusual to find a pair together, and in first class shape. There were signs that the deer had fallen on the ice and the resultant crash probably completed the dislodging process.

It has always been a mystery to hunters why so few of these relics of an interesting natural occurrence are found in the wild, in view of the vast numbers that are cast off annually. The generally accepted opinion is that they are eaten by such rodents as squirrels, rats, mice, etc., who find them quite palatable at this time of the year when other food is scarce. It is quite probable, also, that many of them become covered up by leaves and so are unobserved, particularly in view of the fact that they have a strong resemblance to dead branches. Under such conditions they no doubt disintegrate quite rapidly because of their composition. In any case few are found in the woods and the mystery of their disappearance is as puzzling as are many of the other queer things that happen to the creatures of the wild, such as cycles of abundance and scarcity, etc.

Among certain hunters there is a mistaken impression that age of the

buck can be told by the number of points or spikes on the antlers. Generally speaking this is quite incorrect. From a scientific article in California Fish and Game we quote the following: "Up to a certain age, probably that of maximum vigor, the antlers by their size alone, but more particularly by increase of basal circumference, show marked age variation. The number of tines (spikes) however, contrary to popular misconception, gives no reliable indication of age once maturity (an age of 4 to 5 years) is reached. The antlers of old males have a greater basal circumference and are pronouncedly rugose (wrinkled) at the bases; these parts are studded with large and small nodules" (lumps). In other words it is quite unreliable to assume that each branch on the antlers represents a year of life. "It is a common occurrence" writes Gaston Marquis, "to find bucks ten or twelve years old with only three or four branches on each side of their antlers. On the other hand, the contrary may also happen. Experiments made on a deer living in a preserve showed that this animal of three years old grew eleven points because of the type of food on which he was fed. This may also happen to deer living in the wild state, particularly in regions rich in lime."

The development of the antlers is an interesting study. Three to four months after birth a pronounced bulge begins to appear on each frontal bone at the back of the head. These protuberances grow fairly rapidly outward and carry with them a covering of skin and natural hair. By the time winter arrives these budding antlers are projecting an inch or two above the forehead of the young buck. Until in his second year however, the buck has no antlers. About 18 months of age, or so, the deer strips the velvet from his first pair of antlers and blossoms forth with two small points four or five inches long, in which stage he is known as a "spike-buck". The development of the antlers is completed about mid-August, although they are still in the velvet stage, i.e. they are covered with a sensitive skin and the hairs are fine, soft and of a uniform colour giving the appearance of velvet. At this time the deer, actuated by instinct or some unknown stimulus, rubs his antlers against a convenient tree and strips the velvet therefrom. For a month or so after the velvet is shed, the antlers are very sensitive while a process of conversion is taking place which turns the soft animal tissue into bone. Fully formed, and freed from the velvet the antler soon becomes a hard, solid weapon of offense and defense.

During the period of the development of the antlers the buck usually goes off by himself to seek seclusion and rest. With the approach of the mating season in November he emerges from his seclusion proud in the acquisition of a new set of antlers and brimming over with restless vitality. At this stage in his career he is conscious of a new power and will fight any rival who interferes with his mating instincts.

When the change from the velvet to the bone-like substance of the fully formed antler takes place, the living tissue has been transformed into what is, in effect, a dead structure. By the beginning of the year this imposing head-

dress has begun to loosen as a result of the decay which sets in, and finally the antler falls off of its own weight, or as a result of contact with other objects, leaving a cavity on the tip of the frontal bone. In two or three days' time the wound is completely covered with a thin sheet of skin and the process of development begins all over again.

Musings on Ontario's Northland

That was an interesting story which appeared in one of the evening papers recently. It concerned an aviator who was flying in some supplies to a northern mine and who for some reason or another could not locate the particular lake he was to land on. As a way out of his difficulty he landed on a small lake, unloaded his freight and returned to the base for more specific information as to his destination. Then he flew back once more and without a great deal of difficulty found the proper place to land the supplies. Imagine his chagrin however, when he went to pick up the freight again to make delivery and found himself unable to locate the small lake where he had unloaded it!

The background for such a possibility was forcibly impressed upon us the other day when we found it necessary to look over a fairly large scale map of the Rainy River-Kenora District. The topographical features were reproduced from aerial surveys and what we saw there called forth a number of superlatives indicative of our amazement at the panorama spread out before us. There appeared to be "water, water everywhere" in endless confusion. Large lakes, some of them stretching close to 100 miles long and with varying widths up to fifty miles or more; countless thousands of others, and we mean that literally, ranging in size to mere specks on the map; and all or most of them connected by feeder streams, or creeks, make the map a veritable maze of land and water so amazingly interlocked as to cause one to gasp with astonishment, even if one has always had a general idea of the situation.

This vast northland which stretches from the Manitoba boundary on the west to the Quebec boundary on the east; is more or less a replica of the picture, with perhaps a somewhat lesser concentration as one proceeds eastward. The great watersheds of the Albany and the Moose River, with their tributary waters, leading to and from innumerable lakes scattered in all directions make this whole country a land of enchanting mystery full of virgin waters and anticipatory thrills.

But to return to the map. Our first thought was to try to count the lakes in a measured area, but it proved more troublesome than adding the digits in one of the recently popular magazine puzzles wholly composed of figures. One just did not seem to be able to pin them down without resorting to some of the practical equipment used by draughtsmen or surveyors. In spots they clustered together like some weirdly shaped fruit hanging from spider web vines. The hair-like lines representing creeks and streams linking the lakes completed this illusion. Our imagination ran riot for a few minutes

as we attempted to visualize what was implied in this amazing topographical picture of terrestrial and aquatic grandeur. The resources of forest and mine have been tapped and found to be productive of immense wealth. Beneath the rugged rocks of the post-glacial period are treasure chests of unrefined gold, silver, copper and many other precious metals, while the forests which shroud the valleys and rocky promontories are of material importance if rightly used. What appealed to us, however, was the tremendous possibilities for recreation in this vast region of the north. The larger water areas are literally dotted with islands, each appealingly suggestive of summer cottages or camps, while the numerous bays, inlets and connecting waterways speak to us of carefree vacation days. The vast stretches of uninhabited lands conjure up visions of abundant wild life while the extensive water areas enthrall us with thoughts of battling beauties waiting to test our skill.

This vacation land of the north was, until recently, more or less a closed book. Its vast extent, and its dense forests and rocky terrain made it almost inaccessible to other than the hardy pioneers, prospectors and trappers who blazed its trails while exploring its possibilities. Modern means of transportation, however, are opening up the country, and men of vision and resource are developing its recreational features to the great advantage of the province as well as themselves. The tourist traffic has become one of our chief industries and the gradual opening up of the north should result in further stimulating this business.

As we were about to close these musings we happened to glance up at a map of Southern Ontario hanging on the wall and were reminded that the lakes and streams of the south are relatively just as extensive in certain sections and equally as alluring as those of the north.

The wild life which inhabits our forests and water areas completes the picture of a wonderful heritage. It is to ensure that these resources will not be dissipated that we urge their conservation. This implies, on the part of the individual, protection through law observance and wise use. To save is to have, and to have is to have kept faith with future generations.

Introduction of Non-Native Game Birds

The following report compiled by a member of the staff, in response to a request from a non-resident for information on the introduction of non-native game birds to the province will doubtless be of interest to the sportsmen of Ontario. While the introduction of certain species is more or less shrouded in mystery, so far as the files of the department are concerned, it is probable that some "old timer" may recall the circumstances, or know something about those "ardent sportsmen" who introduced the ring-neck prior to 1895, if so we shall be glad to hear from him.

English Ring-Necked Pheasants

It seems rather a hopeless task to definitely determine the time and circumstances when the English Ring-Necked Pheasant was first introduced

into this province. The only official record I can find is in the published reports for the department. It is strange that while reference is made in some of them to conditions, no information is included as to when exotic species were planted or by whom. The first reference I have found is in a report of the Ontario Game and Fish Commissioners for 1895, reference is made to Mongolian and English Pheasants.

Extract:—"There is an increasing feeling among sportsmen that further and greater efforts must be made in the near future looking towards the re-stocking of game covers, and quail seems to be the only bird which offers a fair compensation for the outlay of time and money. As is well known, none of the other native birds admit of propagation so that re-stocking with them is out of the question. Some ardent sportsmen have introduced the Mongolian Pheasant and also the English Pheasant but sufficient time has not yet elapsed in which to test the success of the experiment."

Rondeau Park

It seems that about this time the propagation of game birds was undertaken at Rondeau Park as reference is made to the experiment in the 1896 report of the Ontario Game and Fish Commissioners.

Extract:—"Your commissioners were last year strongly of the opinion, and are still, that certain valuable game birds should be introduced at least into the great parks of the province, and Capercailzie, Black Cock and Mongolian Pheasants were recommended to be placed in Algonquin Park, where, from the experience in planting these birds in the forests of Maine, where the conditions are much the same as in our own Northern Ontario, we were confident that they would prosper, and in time not only stock the large park but by the overflow eventually stock the surrounding country and become a permanency much to the benefit of the public."

"The Mongolian Pheasant can bear any reasonable amount of cold, providing the ground be not covered with snow so as to exclude it from its food, for it is not a bud eating bird. On this account we fear that its introduction into our parks may not be successful, still, the experiment with a few pair would not cost much and would test the question."

"At Rondeau Park a few Sharp-Tailed Grouse were put down, but as might have been expected, they disappeared; they would have been more likely to succeed in Algonquin Park, for in a state of nature they have been observed near there, although rarely. A number of English Pheasants, about 120, were reared at Rondeau during the last year, which is very well for the first season."

Propagation

Report of the Ontario Game and Fish Commissioners, 1899.

Extract:—"We trust that at an early date some steps will be taken to study scientifically the condition of the fish life in the great waters of the province, and before it be too late scientific methods adopted to re-stock

some, at least, of those waters which are well known to be nearly depleted of the fish life which in former times was so abundant."

"To a certain extent the same thing may be said of our forests and covers in the more settled districts. The birds and animals are gradually but surely vanishing and do not now exist as they did a few years ago. This is, of course, owing to the clearing up of covers and the greater tendency to engage in the pursuit of game and with better guns. We understand that the same precise and scientific means cannot be taken toward re-stocking our covers as there can be of re-stocking our waters, yet very much may be done."

"Your commissioners have made some attempts along these lines by urging that some of the best game birds which have for so many years been successfully raised in European and other countries, should be introduced here. As a result your government has been good enough to engage a man at Rondeau Park to do what he can in the way of raising for re-stocking some of these birds. A number of Mongolian and English Pheasants were purchased some years ago and they did fairly well for some time since the flock numbered about seven hundred, and we had great hopes of the next year being able to plant a number of them, but vermin made a great havoc among them, and besides, many of the birds became affected with tuberculosis, and from this cause a number were lost, since it is very infectious when it once appears in a flock of confined birds. An incubator has been furnished Mr. H. Gardiner with which to hatch the pheasant eggs, but that does not seem to have been managed successfully, although better results may be expected next year now that it is better understood.

Point Pelee

Report of the Ontario Game and Fish Commissioners, 1901.

Extract:—English Pheasants—"It has been suggested, in consequence of the English Pheasants that have been liberated on Point Pelee having done so well, that the Point should be made a preserve and no shooting or hunting, at any time be allowed on the Point."

Open Season

It is interesting to note the discouraging tone in the interim report of the Ontario Game and Fisheries Commission (Special Committee), 1909.

Extract:—"The pheasant which has been introduced into portions of Southern Ontario is undoubtedly a very fine game bird, and, in addition, though perhaps not quite so toothsome a delicacy as the native partridge, none the less much prized for its edible qualities. Under protection it may be said to have thrived in the districts in which it has been introduced, but, owing to the severity of the winter, and its constitutional and physical peculiarities, it can never be expected to adapt itself to the greater portion of the province, or to live and multiply therein in a wild state."

Ontario Game and Fisheries Commission (Special Committee) Final Report, 1910.

Extract:—"The open season for pheasants which was declared during the past year, resulted apparently in the satisfactory discovery that the birds were more plentiful than had been supposed, and most excellent sport would appear to have been enjoyed, sufficient time, however, has not yet elapsed to enable a determination to be arrived at in regard to the advisability of repeating the experiment of an open season during 1911. Careful investigation should be made at this point by the proper authorities, for the pheasants in some localities have become so well acclimatized and are thriving to such an extent that it would be a grievous mistake to allow their numbers to become unduly diminished."

Hungarian Partridges

The first mention I can find of European Partridges is in the first annual report of the Game and Fisheries Department, 1907.

Extract:—Quail—Hungarians—"I am glad to say, owing to close seasons and re-stocking, the effects of several hard winters have entirely disappeared. It is not wise to depend on perpetuating the supply of quail by re-stocking. If the Hungarian or European Partridge will not fight and molest the quail, it would be advisable to endeavour to acclimatize these strong and hardy birds in our quail districts, which I am convinced would be suitable for them."

No further mention is made until 1914, when a brief reference appears in the Annual Report of the Game and Fisheries Department, 1914.

Extract from report of Overseer Coultis of Leamington:—

"The Hungarian Partridges, from all reports seem to be on the increase. They have become acclimatized and are doing very well."

Capercaillie

It is interesting to observe that the introduction of Capercaillie was undertaken some years ago. Report of the Ontario Game Commission, 1904.

Extract: — Capercaillie—"From reports received from Mr. Bartlett, superintendent of Algonquin Park, where sixty of these imported birds were liberated, we have reason for concluding that these, the largest of the grouse family, are here to stay and that the venture has been successful. They were liberated in the fall of 1903 and withstood the ensuing severe winter. A number of them were seen last spring forty miles from where they were released. During the summer two broods of young bird were seen in different localities many miles apart. The supposition is that these birds, being found so far from where released, are retiring to the dense, uncut pine woods more suitable to their requirements."

Report of the Ontario Game Commission, 1905.

Extract:—Capercaillie—"The superintendent of Algonquin Park, where Capercaillie were released two years ago, reports that a number of them have been seen during the past summer."

First Annual Report of the Department of Game and Fisheries, 1907.

Extract:—Capercaillie—“The superintendent of Algonquin Park where the imported Capercaillie were released some years ago, reports that three were seen last summer on the island on which some of the imported birds were liberated. Several others were seen by reliable parties. I am surprised that more have not been seen as they are very shy and solitary in their habits, retiring to the most dense and inaccessible pine woods. They do not increase as rapidly as other members of the grouse family, not rearing more than five or six in a brood. I consider it very satisfactory that numbers of them have been seen years after the imported ones were liberated, which proves conclusively that their surroundings are suitable, and that they are there to stay.”

It Can Be Done

Every time we visit a town through which a river flows we invariably comment on the attraction which it holds for us. We can usually picture ourselves sitting on one of its banks during the heat of a summer evening and enjoying to the full its cooling breath, or strolling peacefully along revelling in the serenity which its poetical environment always suggests. Closer examination, however, generally bursts the bubble of our too vivid imagination. For the most part the rivers which pass through our cities and towns instead of being the clear, sparkling waters of our dreams are muddy, sluggish and quite unattractive. They carry with them the refuse of the whole district through which they pass. In addition the water is frequently polluted to the extent that fish life becomes impossible. To restore them to their natural beauty would require the co-operation of every municipality through which they pass and entail provision for sewage disposal and the proper disposition of industrial wastes. These latter problems are within the bounds of engineering skill, but the cost of such regeneration appears to be prohibitive. That it can be done, however, is well illustrated by the following interesting article which we have received from Mr. W. A. Macartney, City Engineer, Edinburgh, Scotland:

The Water of Leith, Edinburgh

“Few, if any, of the large cities of the world, can offer such facilities for fishing, as the City of Edinburgh.

In the old capital of Scotland there is a small river called the Water of Leith. It arises in the Pentland Hills adjacent, and its course is not more than fifteen miles in length. For about one half of its length it runs through the city, discharging into the Firth of Forth at Leith, the port of Edinburgh.

Passing through the heart of an old city, the stream was more or less the dumping ground for refuse, liquid or otherwise. Its banks were also the sites of mills for the making of paper, snuff, flour, and for tanneries. Some of these mills have been in existence for three and four hundred years.

In the middle of last century the first steps were taken to endeavour to preserve the purity of the water, but these were only partly successful.

Towards the end of the century the beautiful little river was for many miles nothing more or less than a common sewer.

One is glad that the powers that be were sufficiently interested to take active steps to put an end to this state of affairs, and after a public enquiry into the matter, proposals for the establishing of a joint board to control the river were agreed to. This board consisted of a representative of the county council, the town council and the mill-owners. It was given powers to assess for the payment of the necessary works and for the maintaining of the new works.

The joint board provided at each of the mills which polluted the river, settling tanks for the preliminary treatment of the wastes. They also allocated a proportion of the river water to each of the mills according to their needs.

They further laid a new trunk sewer for the whole length of the polluted stream and insisted on all sewage of every kind being connected thereto. They did not interfere in any way with the use of the river for power purposes where the water was returned to the river unpolluted.

The result in a few years was to transform the polluted stream into a thing of beauty and a joy forever. Fish were introduced, and thrived, so that the citizens as well as the fishers were delighted at the change.

This happened nearly 50 years ago, and to-day the river remains pure and clean, despite the very large amount of building on its banks, in the post war era especially.

The powers of the joint board are now vested in the City of Edinburgh Town Council, and this body is very zealous of its charge. In addition to full time watchers there are also voluntary wardens who patrol the river during the fishing season.

Each year the lower reaches of the river are stocked with from 2,500 to 3,000 yearling trout.

Fishing in the river is free to all citizens, but a permit has to be obtained from the town clerk for each day, in the lower three miles. Last year no fewer than 800 permits were issued, and fishers are asked to return a post card stating the amount of their catch. These returns, incomplete though they were, (70%) showed that over 1,000 fish were caught ranging from two ounces to 20 ounces in weight, in a rather poor fishing season owing to the small flow in the river during the summer months. Some of the best fish were got in the vicinity of the most heavily populated part of the city.

What has been done in Edinburgh on a small scale shows that where there is a real desire to purify rivers and make them useful, pleasant and healthy, there is no great difficulty in doing so."

Practical Conservation

The formation of ice on the wings has caused many a plane to get out of control and crash to earth. It is unusual, however, for one of our wild

fowl to find itself in jeopardy from the same cause, therefore the story told by Overseer Dorland is quite interesting.

It seems that on New Year's Eve the officer received a phone call advising him that a wild duck was lying in the middle of the main street in Rodney. He proceeded down town at once and found a small crowd gathered around the hardware store, while inside a man was holding a wild duck which appeared to be frozen and still had some ice on its back. A cursory examination and it was pronounced dead. Closer scrutiny however, revealed that there still was a spark of life wrapped up in the downy feathers. The bird was carefully placed before a stove, and in about three-quarters of an hour it began to raise its head and show signs of returning animation. When the duck had thawed out it was placed in a crate and kept indoors. Next day it still seemed pretty well exhausted and refused to eat any food. Perhaps the convivial, friendly atmosphere of the first day of the New Year helped to revive its drooping spirits, for on January 2nd it was much livelier but still had not eaten anything. During the afternoon the officer took it out of the crate, held it in his hands for a few moments, and caressed it in a friendly manner. That kindly gesture gave the bird new life and hope; it stretched its wings, fluttered for a moment, and then soared into the air. As if paying a parting salute it half circled the town, then disappeared in a north-westerly direction. Those who picked up the duck, which, by the way, was what is known to the hunter as "a leatherneck", told the Overseer that when first found it was entirely covered with ice. Where it came from or whither it was going are still a mystery.

Part Payment

By Robert F. Keagle

With hunting season over and guns all put away
 No sportsman needs to feel his work is done;
 It was very fine in season to enjoy the quest for game
 But now the time for payment has begun.
 For hunger stalks the out-of-doors and desolation rules
 Where lately plenty reigned with lavish hand
 So a task confronts the sportsman, a challenge to each one,
 That should the heart of every man expand.

The rabbit and the ringneck, the ruffed-grouse and the quail,
 Which escaped the hunter's gun, need help from you;
 The doe-deer in the thickets weakened by the cold
 Needs food if she can hope to winter through.
 Go out to these enhungered ones and ease their suffering
 And thus a real appreciation show,
 Then reap the satisfaction that will be justly yours
 For having paid a part of what you owe.

—*Pennsylvania Game News.*



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DEPARTMENT OF
GAME AND FISHERIES

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HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

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TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Editorial Comment

SPEAKING of the recent North American Wild Life Conference held in Baltimore, a writer has this to say: "Contrary to nearly all such meetings in the past, not a single person who professed to know anything about game management took the floor to contend that all game problems could be solved by indiscriminate killing of hawks and owls, and other predatory animals." As we recall it, not a single delegate who appeared before the recent sittings of the Game and Fish Committee even suggested that predator destruction was the most effective means of providing an abundance of game. A few years ago the advice "destroy the predators and your game problems are solved" was freely tossed at those in authority by certain sportsmen whose knowledge of the subject was more or less superficial. These men were quite sincere in their opinions. Many of them had had practical experience of the ravages wrought by wolves, crows, etc., and as a result of those experiences believed that all that was necessary for the proper development of game was the extermination of the so-called predators. We believe it is now generally accepted, that while a certain measure of control is necessary to maintain the supply of desirable species in sufficient abundance to take care of present demands and ensure future requirements, this is but one of the many difficulties with which the problem of Conservation, or Wild Life Management as it is frequently spoken of, is faced. Obviously the buffalo did not "almost entirely disappear" because of the destruction wrought by wild life predators; nor did the Carrier Pigeon pass forever from the picture because of the ravages of hawks and owls. The present condition of wild life is the result of the development of a country, and the general lack of appreciation of the value of the heritage which is ours. These two factors were responsible for the destruction of habitat and environment in forest and stream and the tremendous waste which, over a long period of years, has characterized our use of our game and fish resources.

The balance in nature, which the Indian knew, and which we speak of as the original scheme of perpetuation, has ceased to exist and can never return, for our mode of living has entirely changed since then. We can, however, create a new balance; a balance that will meet our needs without sacrificing anything necessary for our social and economic welfare as a people. It merely requires a readjustment of certain unwise methods of using our natural resources of land, forest, water and wild life, and the co-

operation of every individual towards that end. Wild life is an essential part of our world and to destroy it through shortsightedness is to impair our own happiness.

Anticipating May 1st.

Many thousands of anglers are eagerly anticipating the opening of the trout season on May 1st. It is an important date in the calendar of the fisherman because it presages a long season of outdoor happiness and piscatorial thrills. April 1st may be "all fools' " day and lend itself to the perpetration of practical jokes of doubtful humour, but May 1st spells emancipation from the social conventions which go with "soup and fish" leaving us free to eliminate the soup and just fish. By the middle of October most anglers have put away the fishing equipment, not because they are tired of fishing, but just that climate and closed seasons force them to desist. For this reason, therefore, it seems a long time between bites, and so as the season once more approaches we are all on edge and "rarin' to go."

There is every reason why trout fishing should be good this year. Natural conditions have been reasonably good and spring floods less destructive than last year. In addition to this the Department completed an extensive re-stocking programme by planting approximately one and a quarter-million of yearling and adult speckled trout with corresponding increases in the numbers of the other species of trout of the same size. The planting of these trout had a wide distribution in suitable waters throughout the province and very many of them should find their way into the anglers' creel after May 1st. The success of any programme of re-stocking, however, is dependent upon many factors which we have endeavoured to enlarge upon from time to time. With this in mind it is worth repeating, that in the matter of conservation, as applied to our hunting and fishing, much of the responsibility for the kind of sport we obtain rests with the sportsmen themselves. When those who hunt and fish realize their own responsibility for improving conditions, for ensuring law observance, and for putting into practice those ideals of sportsmanship which tend to conserve the resources, then the success of the work of propagation and re-stocking will be assured. Without such co-operation much waste is involved, and waste is always expensive and detrimental to the effective realization of any plan of sound business development. With the ever-increasing thousands of anglers who see in fishing the open door to health and recreation, and with improved methods of transportation and the development of good roads, the problem of maintaining an adequate supply to meet the demand is one in which there is no room for selfish or unethical practices.

We once heard a speaker remark that the Battle of Trafalgar was won, not because every man did his duty, but because every man realized the situation was critical and did infinitely more than his duty, as defined by the King's regulations. Under the Game and Fisheries Laws certain duties are imposed upon the sportsman and certain restrictions provided for the better administration of a valuable trust. Every sportsman must observe

these regulations; it is his duty as a good citizen, and in so doing he is contributing his share towards the conservation of a valuable public resource. The laws, however, are of necessity framed to meet a variety of conditions and while these regulations are mandatory, they might well be construed to fit individual circumstances within the limits set. For example, the creel limits for trout and other game fish are quite generous. If you, Mr. Sportsman, require the limit to satisfy the immediate demands of your family, then there is justification for taking it. If, however, your personal requirements are small, there is no justification for continuing to take until limits are obtained, merely for your own gratification or the commendation of the friends to whom you probably present the surplus. The ethics of sportsmanship demand that you play the game fairly, and to take unnecessarily is unethical. If you feel you must continue fishing until you have caught the limit, it would be sporting to use such methods as would enable you to release, uninjured, those you have taken beyond your personal requirements. It is your duty to take nothing under the legal size prescribed by law, but if, because of local conditions or personal belief, you feel that limit is too small, it would also be a gesture of good sportsmanship to voluntarily increase the size limit as it affects your sport. You might not get as many fish to carry home with you, but you would have the satisfaction of feeling that you had backed up your opinions and contributed your share to the protection of your sport. After all, as someone has said, "The finest conservation measures are not written in the statute books, but in the heart and conscience of the sportsman".

It will be apparent that in these days of fish-markets and meat-markets it is no longer necessary in most cases, to go fishing in order to obtain food. If we merely want fish or flesh, it is more economical to go down to the market place and buy it. Fishing is one of the finest recreations available to the sportsmen of the province, but it should be indulged in primarily as such, and not with the idea of stocking the larder. This necessarily implies placing the emphasis upon the healthful recreation and joyous relaxation for which fish provide the incentive rather than the objective. The environmental associations of the great outdoors are an antidote to physical debility and mental sluggishness, while the thrill of the strike, the struggle for supremacy, and the ultimate triumph complete a picture of physical and mental rejuvenation which is priceless. However, it must be admitted that, having subdued a worthy opponent, the thrill is over and the possession of a creel limit but serves to pamper our egotism. Fish, therefore, for sport, and if perchance, by reason of your skill or luck, your reward exceeds your requirements, carefully unhook the surplus and let them go. The fish you release today will strike just as savagely tomorrow, and the inward satisfaction of having done more than your duty will amply compensate for any apparent lack in ability which the possession of a small string might suggest. We believe it was Paul who said, "All things are lawful unto me, but all things are not expedient". The possession of a creel limit is perfectly legal and

therefore quite justifiable, but, in the interest of conservation, the expediency of always demanding our "pound of flesh" is questionable. It is our own interests which are at stake and their wise use and development is therefore of greater importance than any transitory pleasure we may obtain from excessive taking. In other words, let us make the limits of our requirements within the law the limits of our catch. If we but catch the spirit of Trafalgar and resolve that success in the development and perpetuation of our fish and game resources is to be attained not merely by doing our duty which is a legal requirement and therefore not open to any particular commendation, but by doing everything that common sense and good sportsmanship demand, then success is assured. In the final analysis it is strictly up to you, and me!

Flash

As May 1st this year falls on a Sunday, it has been decided to advance the opening date for trout fishing to April 30th. Anglers will therefore, be enabled to hie themselves away to their favourite stream on the preceding Saturday for a week-end of fishing.

In keeping with the same general idea, the opening date for pickerel and pike will this year be advanced to Saturday, May 14th, instead of Monday, May 16th.

To Distinguish a Brown from a Speckled Trout.

He was an experienced fisherman, i.e., he had been fishing lake and stream for a great many years, and so we were somewhat surprised when he asked us to tell him the difference between a speckled trout and a brown trout. It seems that the latter species had been introduced to one of his favourite streams two or three years previously and although he had caught many trout, he never was quite sure whether any of them were brown trout. His lack of knowledge was quite excusable, for it is only within recent years that the brown has been introduced to a number of the streams in Ontario.

The brown trout is non native and of European origin. The first browns were introduced to North America in the late eighties, from Germany. The Loch Leven trout, which is a species very closely resembling the German brown trout, was introduced to the United States from Scotland about the same time. The brown has always been a prime favourite with European anglers because of its beauty and gameness. In appearance, the brown trout, especially after it has attained a length of ten inches or so, is somewhat stockier than the speckled trout. The head, body, dorsal, or back fin, and the adipose fin, which is the flesh-like projection behind the dorsal fin, are marked with numerous red and black spots. The black spots are mostly confined to the upper part of the body and are rare beneath the lateral line, being scarcely developed on the tail. The body colour is determined by food and water conditions, but the back and sides are decidedly brown. The red spots on the sides are more or less strongly developed. In adult

male fish the jaws are pronounced, while the tail is almost square. In young fish the tail is slightly forked or notched. The vomer, which is a membrane bone located in the central part of the roof of the mouth, extending backward towards the gills, has a zigzag, or crosswise series of well-developed teeth on its shaft.

There are several quite distinctive differences between the brown trout and the speckled trout apart from the colour and markings, which are readily noted. If, for example, your trout has the familiar, dark, wormtrack lines or irregular markings on its back, it is a speckled trout. The scales of the speckled trout are very small and scarcely visible to the naked eye, while those of the brown are larger, with fewer lateral rows. The vomer bone in the upper part of the roof of the mouth of the speckled trout is depressed and without teeth on its backward extension.

In short, to tell a brown trout, look for the distinguishing markings; back and sides decidedly brown; back covered with black spots extending to the head; red spots with a bluish tinge on the sides. If still in doubt, open the jaws and note whether the roof of the mouth has several irregular rows of teeth extending backwards in the centre of the head; if so, you guessed rightly: it's a brown!



Three-year-old Brown Trout.

The Brown Trout

In view of the fact that many thousands of brown trout are being planted yearly in the waters of the province, and that to the average angler the habits and characteristics of this species are not as well known as are those of the speckled trout, the following extracts from a descriptive article in the *Pennsylvania Angler*, will doubtless be of interest:

“That amazing fish, the brown trout, has, during its comparatively brief stay in Pennsylvania waters, caused probably more discussion among fisher-

men than any other introduced species. Condemned on the one hand, by anglers who hold the native brook trout on a pedestal, as a cannibal and a destroyer of the brook trout; championed by another group as a fish of rare fighting qualities and a credit to any stream it inhabits, the status of the brown trout is unique. The fact remains that the brownie is here to stay. It has found in many Pennsylvania waters an ideal home, and during recent years has won a host of friends in the fishing fraternity. Rising in an arc of golden brown to the fly, wary in feeding, and a savage fighter from the moment it is hooked until it is taken, it ranks today as one of Pennsylvania's leading fishes."

A Vaunted Ancestry

"The beauty and gameness of the brown trout have been praised by European anglers for more than a thousand years. Writing in the fifth century, Ansonius commented strongly on the beauty of this fish. Izaak Walton, patron saint of angling, won it a host of friends. And in 1496, Dame Juliana Berners, authoress of 'The Treatyse of Fysshynge', declared her fondness for it in no uncertain language. 'The troughte,' said the gentle prioress, 'for by cause he is a right deyntous fysshe and a right fervente byter—From Apryll till September ye troughte lepythe; theune angle to him.'

"Page after page by early writers of prose and poetry who lauded the qualities of this fine game fish might be quoted. Every phase of its swift movements, the courageous fight it makes when hooked, and the picturesque streams of the Old World in which it lived furnished subject matter in abundance for those who found in the brown trout a fish of rare game possibilities."

"Food and its effect on fish growth is vividly illustrated in the instance of the brown trout. Its natural tendency is to develop to great size. Afforded ample forage and range, it may attain a weight of twelve pounds or over. Three brown trout taken in Pennsylvania waters last season exceeded eight pounds in weight. The largest, taken on Fishing Creek, Clinton County, weighed nine pounds, one ounce, dressed. When introduced to the virgin waters of New Zealand during the latter part of the nineteenth century, the rapid growth of the brown trout was amazing. It is said that by 1900, the weight of trout taken from New Zealand and rivers approximated 10 pounds."

"Just as striking as their rapid growth where food is plentiful is the arrest in development of brown trout when they are planted in waters having a limited food supply. If dependent chiefly on insect life that may fall upon the water, which is necessarily a seasonal food supply, the size average of brown trout from streams having this type of available forage frequently does not exceed nine or ten inches. For this reason, the Fish Commission has classified, as approved brown trout streams, waters offering abundant range and food supply."

"Research at the Fish Commission's hatcheries has revealed that brown trout fry, during the first months of their growth, develop more slowly than do brook trout fry under the same conditions. When the young fish have attained a length of six inches, however, their growth is exceedingly rapid."

"In 1883, when the brown trout was introduced, low temperature water was believed essential to the growth of brook trout, and, in consequence, many of the warmer water trout streams were stocked with the imported trout. Through a constant program of brook trout propagation in Pennsylvania, however, a strain of hatchery brook trout was evolved that will stand water temperatures up to 70 degrees, or slightly above. This means that both species will thrive in waters of approximately the same temperature."

Habits

"The brown trout is a wary feeder. Frequently it will not start rising to the fly until a short time before dusk, and the rise may not last longer than ten or fifteen minutes. If it is taking the fly, however, it apparently loses some of its instinctive caution, and when an artificial of the right pattern drops to the water, it strikes with a rush. To fish a stream in which brown trout predominate, an angler often may cast for half a day without a strike. But when the rise starts, the action is so fast that it more than compensates for an afternoon that has been unrewarded. This tendency of brown trout in feeding is usually well known by anglers who fish favourite brown trout waters. Often they do not arrive at the fishing grounds until nearly dusk, when, experience has taught them, the brown trout rise should occur. Of course, to time the rise of a fish as temperamental as the brownie is impossible. At times it may come, as in the instance of brook trout rises, in the middle of the day. Again, early morning may produce the right feeding hour. It may be that weather conditions have a great deal to do with the feeding of this wary fish. At any rate, to fish for it successfully requires patience and study devoted to any particular stream in which it abounds."

"By preference, the brown trout apparently seeks its lair beneath shelving rocks or overhanging banks during the heat of the day, moving into the feeding shallows or riffles when evening approaches. Large brown trout, in particular, seem to do most of their feeding at night, and in night fishing the big fellows are often taken. It should be emphasized that brown trout well over twenty inches do not rise freely to the fly. Evidently, at this stage of their development, they prefer larger food, and minnows make effective bait for them. An exception to this preference for larger forage in big brownies is found when the so-called shad flies or Mayflies are on the water in Penn's Creek, Spring Creek, and other noted central Pennsylvania brown trout streams. At that time, some giant brownies are taken, for the female shad fly, heavily laden with eggs, is apparently a tempting morsel that even a mammoth brown trout cannot resist. Shad fly time comes to these streams generally in late May or early June, and lasts for not more than ten days. Early morning and late evening fishing usually produce good

catches. The natural insect, female, is used in fishing, as it is large enough to impale on a small hook. Sometimes, three or four of the flies are placed on the hook at the same time."

"Shad fly fishing entails considerable study on the part of anglers who find during this period their red letter days of the entire trout season. The flies are generally caught without difficulty early in the morning, on foliage near the shores of the stream. When the first insects appear on the water, tiny swirls are to be observed here and there indicating feeding trout. Some veteran anglers make it a practice to stand well above a pool in which a good trout is known to be, dropping at short intervals one of the insects on the water. The first three or four flies may be disregarded, but often a tiny dimple on the water marks the passing of the fourth or fifth fly as it is sucked beneath the surface. When the trout is coming steadily, the angler baits the hook, and soon the battle is on. Artificial shad flies, if good life-like imitations, also are effective in taking trout during shad-fly time."

"Fishing for the brown trout in England, it is said, has been brought to a fine science. Expert fly fishermen on English streams carry with them a complete fly-tying outfit. Locating a large fish that is rising, they find the particular fly on the water that it is taking, and then make a life-like imitation of the original. Often their casting is limited to one fish, until it has definitely quit feeding or has struck the lure."

"In fishing Pennsylvania streams for brown trout, it is well to locate a pool in which some large trout are known to be and then wait until they have started to feed. Often, a giant brown trout will select as home a pool in which the current has undermined an overhanging bank, or a location near a tangle of brush, logs and tree roots. When hooked, one of its most probable first attempts to break away will be a savage lunge toward the debris, an attempt that unless checked carefully, may bring the angler's tackle to grief."

"Matching wits with a cunning brown trout that has successfully eluded the efforts of fishermen to capture it for a number of years is productive of unusual thrills for the angler. And in this fighting, hefty trout from the waters of Europe, Pennsylvania's followers of the creed of Izaak Walton find a foe worthy of the best of fishing skill."

Improving Trout Streams

To improve fishing in trout streams, the Department is pursuing a policy of active propagation and restocking of speckled trout and other species of the trout family. The policy calls for the carrying over of the fry to the yearling or adult stages before planting them in suitable waters. This means that the fish are in many cases of legal size, or over, before being released and because of this fact are better able to take care of themselves and provide fishing possibilities within a reasonable time. The depositing of large numbers of fish, however, does not assure stream rehabilitation. In

order to live and thrive, these trout require more than water, just as human beings require more than air, however essential and necessary that may be, to sustain life. The water must be reasonably free from poisonous matter, and the temperature should not rise above 70 degrees or thereabouts; there must be suitable food present in the water and a sufficiency of vegetation to aid in the development of food requirements. It will be obvious, therefore, that the proper environment is just as important to good stream fishing as the planting of fish. It is scarcely necessary to assert that many waters which once were good trout streams no longer afford the necessary conditions which make good fishing possible. In many cases these streams are subject to heavy seasonal floods which destroy vegetation, minute animal life and fish, or at other periods of the year practically dry up, or the temperature of the water becomes so warm that trout will not thrive therein. Where such conditions prevail the problem of providing good fishing presents serious difficulties which can only be overcome by removing the causes and restoring as far as possible the natural environment.

There are many things the sportsman can do to improve conditions in his favourite stream. One of the most important of these is to plant shade trees along the banks and a certain amount of vegetation in the water. The provision of shade for open streams is a factor of great importance in any scheme to provide good trout fishing. It will usually be found that trout streams flowing through agricultural areas are for the most part slow and sluggish due to lack of volume and the nature of the terrain. In addition, large stretches of them are denuded of shade and shore cover, conditions which make the development of fish life very difficult. Streams in mountain areas on the other hand, because of their rapid fall and protection through vegetation and shade, usually maintain a summer water temperature well below the temperature required by speckled trout. Another contributory factor to the poor conditions to be found in the main streams which lack sufficient shade and aeration is their connection with the small feeder streams. In this case also the same general remarks apply. The temperature of these feeder streams at their source may vary during summer from 45 to 60 degrees Fahrenheit. If in the course of their passage to join the main streams the temperature of the water is held down by a sufficiency of natural shade and activity, their benefit to trout in the large streams is of great importance during the extreme heat of summer. Unfortunately the small meadow streams which flow through our agricultural districts have in very many cases been rendered useless as low temperature feeders. They are exposed to sunlight through the cutting down of brush and vegetation along their banks, and, meandering as they generally do for long distances over such exposed country the water becomes warm and sluggish and they enter the main streams not as potential refrigerators to hold the temperature down, but as metaphorical hot water heating systems to jack it up.

The necessity for the restoration of shade to these exposed waters is generally accepted as desirable from the standpoint of improving food and

water conditions, but any such scheme requires the co-operation of sportsman and landowner. Both will benefit very materially from such co-operation. It is unlikely that the farmer, if he is good enough to permit public fishing on his property, would offer any objection to having his stream conditions improved. Such plantings as are suggested would not only create better fish environment, but would also serve to prevent soil erosion. Many organized groups of sportsmen have undertaken some of this work to a greater or lesser degree with very beneficial results and the scheme of replacing as far as possible what we have destroyed, is one that might well receive a great deal more attention. It is acknowledged, of course, that in the settled portion of the southern part of the province the social and economic development of the country have seriously changed the natural conditions which once existed, in many cases unwisely from both standpoints of development, and that these conditions can never be restored in toto, but this fact merely makes it all the more imperative that whatever can be done along the lines of rehabilitation should be done. A good example of what can be done is the Sydenham River in Grey County. The members of the Grey and Bruce Association planted both banks of this stream for a distance of three miles with willows, and have had almost a hundred per cent. catch. In the course of three or four years these will afford excellent shade and will also serve to encourage the development of insect life, thus providing additional food for the fish in the stream.

Cover is just as essential to a good trout stream as it is to game territory. It provides a safety zone, a refuge to which the trout can dart in times of danger, or rest in the shade when the penetrating rays of the sun make conditions uncomfortable. The meadow streams we have referred to, with their open stretches of still, shallow water, not only lack current but are frequently devoid of cover. Action could be stimulated by the judicious placing of logs or boulders to deflect the flow or hold back the water till it overflowed, causing current. This current could also be directed under an overhanging bank or through a shaded shore area, by means of properly placed obstructions. Brush or vegetation in the stream will provide suitable cover, while the logs serve the dual purpose of current stimulation and shelter. If by these simple measures the current in open, listless streams can be speeded up, more shade provided, and the temperature in the main and feeder streams held down, a great deal of progress will have been made towards improving conditions and the prospects of good fishing, in many of our trout streams. Of course, the current factor in some of these streams is already quite favourable and therefore, whatever improvement is planned must take into consideration the characteristics of the individual stream.

Those associations who have sponsored youth membership or Boy Scout affiliations have within their ranks a body of eager and willing workers only waiting for proper direction. To such a group of outdoor enthusiasts the actual work of planting miles of exposed streams with fast-growing shrubs or trees would be in the nature of a fascinating game, and by proper organiz-

ation could readily take the form of afternoon picnics. The boys would gladly enter into the spirit of the work and the fact that they themselves are likely to benefit most from such stream improvement would be incentive enough.

Many streams will not support more than a moderate number of fish because of lack of food. In planting willows, shrubs or vegetation, such as wild rice, you are providing food as well as shade, for you are encouraging insect life. Obviously, therefore, stream improvement is an essential to more and better fishing.

Impressions

The Fish and Game Committee of the Legislature met on the 16th and 17 of March to hear representations and recommendations from sportsmen and nature lovers throughout the province regarding the present Game and Fisheries Laws. This is an annual event and several weeks prior thereto every interested organization is notified of the dates of the meetings and requested to present its recommendations to the Committee personally, or forward them to the Department for presentation. The resolutions which are forwarded to the Department from the various Game and Fish Protective Associations are carefully sorted out, tabulated and made up in handy reference form for the convenience of the Committee. Those organizations or individuals who prefer to appear before the Committee and submit their recommendations personally, have the opportunity of explaining and enlarging upon their reasons for such changes as are suggested. This year every available seat was taken up during both days and many additional chairs were squeezed into odd corners to take care of the overflow. The largest delegation was that representing the Ontario Tourist Trade Association from Northern Ontario. The members of this group, consisting of ladies and gentlemen, were all picturesquely garbed in gray mackinaw coats with black belts and trimmings. They represented tourist outfitters from the Manitoba border to the Quebec boundary, and were capably marshalled and led by their Secretary, Mr. Hughes. For two days prior to the meeting of the Committee they had met in convention to discuss their problems and frame their recommendations, having in mind the best interests of all concerned.

The first day was devoted to game problems. Prior to the opening of public discussion the Minister, Hon. H. C. Nixon, welcomed the representatives and assured them that the Department appreciated the co-operation it received from the various organizations, and noted that some of them had come long distances, at considerable expense to themselves, to lay their views before the Committee.

What impressed one most during the two days of the meetings was the evident sincerity of the delegates in the cause of wild life conservation. This was emphasized by the tenor of the remarks of every speaker. There was almost an entire absence of any requests that might be termed selfish

or shortsighted. For example, the Ontario Tourist Trade Association whose members confessed that good fishing and hunting constituted their chief drawing card, and was in fact their bread and butter, recommended that two large sections of Northern Ontario be closed to moose hunting. So far as they are concerned, this would probably mean a considerable loss of business to some of the members, yet they were farsighted enough to feel that a temporary loss in money is more to be desired than serious depletion of the herd.

Numerous sportsmen's associations made recommendations which, if acted upon, would reduce bag limits on certain wild fowl, increase the size limits on two or three species of game fish, and reduce the general hunting season. Whether or not these changes are necessary or desirable is a matter for the Committee; what chiefly interested us was that they were advocated by those whom the added restrictions would most affect. There was no carping criticism about unnecessary restrictions of "so-called" liberties; instead, there was an evident desire to commend where desirable and to offer suggestions of a constructive nature where such were in the interests of the perpetuation and development of our wild life heritage. The success of the conservation movement lies in the development of this spirit of co-operation through individual and organized effort, and if the tone of the representations made before the Committee is a reflection of the attitude of the public, then a new conception of individual responsibility for the protection and restoration of our game and fish resources has been born, and this will undoubtedly be an important factor in providing and maintaining better hunting and fishing.

Three Crows Equal Two Pounds of Tobacco

Sportsmen have always deprecated the ravages of the crow and seldom have any qualms over its destruction. In their efforts to conserve desirable species of game birds they have been able to produce very definite proof that this black bandit is sporting enemy No. One. That warfare on the crow is nothing new and that it has been going on for well over two hundred years is demonstrated by the bringing to light of an ancient law of the Colony of Maryland. In connection with its Tercentennial celebration of several years ago, Mr. Samuel H. Feldstein, of the University of Maryland, had been delving into ancient laws of the Colony, according to the Maryland Conservationist, and found that anti-crow legislation was passed in 1728. To quote the article:

"It carried the self-explanatory title: 'An Act to Encourage the Destroying of Wolves, Crows and Squirrels; and to make sure that the citizenry would get busy and actually endeavour to wage war against wolves, squirrels and crows the act provided that inhabitants be given credit on their taxes if they submitted definite evidence of their destruction — otherwise, they incurred fines in addition to taxes.

Paid Tobacco Bounties

"Every master, mistress, owner of a family or single, taxable in the counties of the province," Mr. Feldstein pointed out, "was required to submit annual proof that either three crows or three squirrels had been killed for every taxable person they shall pay levy for that year."

"The heads of the dead crows or the scalps of killed squirrels had to be submitted before county justices or other officials, who, in turn, were obliged to destroy the evidence so that it could not be utilized over again.

"A credit of two pounds of tobacco against the yearly taxes was allowed for carrying out the destruction prescribed by the legislation, but a fine of two pounds of tobacco was demanded in case no evidence of the prescribed crow and squirrel mortality was produced.

"A credit of 200 pounds of tobacco was allowed for the killing of wolves."

More About Deer Antlers

The following letter will be of interest to our readers as supplementing our article on Deer Antlers in the last issue of the Bulletin.

Jasper, Alberta,

March 20th, 1938.

"During the past week, an article appeared on the editorial page of the Edmonton Journal, under the heading 'Where Do Deer Antlers Go?' It was an extract from the Monthly Bulletin, Ontario Department of Game.

It is quite possible that January 28th might be a late date for the deer horn shed in the locality in question, but it would not be for the Jasper area in Alberta.

To verify this statement, I have gone over my notes on this subject as far back as 1932, which should be far enough back to give fairly reliable data on the subject. In some cases, the notes were made on seeing bucks that had shed, and in others on seeing the shed horns.

My notes read:—

January 7th, 1938. Bucks are starting to shed their antlers.

January 23rd, 1935. Shot a two-point buck with front leg broken.

January 23rd, 1935. Saw first freshly shed deer horn.

January 7th, 1934. Saw first freshly shed deer horn of season.

January 10th, 1934. Saw buck with one horn. (One horn shed.)

January 11th, 1933. First shed horn seen today. Small two-point.

January 27th, 1932. Picked up one freshly shed deer horn. Small.

It will be noticed that I have stressed the fact in my notes of 1932-33, that the small antlers are the first to be shed. As concerning Mule Deer, I have accepted this as a general occurrence.

As to the duration of the shed, I have the following notes:—

March 13th, 1938. Saw buck still carrying one antler.

February 15th, 1936. Fifty per cent. of bucks have shed.

February 1st, 1932. Shedding general.

Seeing a buck with horns on March 13th, was noted as unusual.

I have the following notes on the commencement of the new growth, which of course, is in the velvet.

April 4th, 1936. Bucks' antlers starting to grow.

May 13th, 1933. Saw buck with horns nearly 12" long.

May 1st, 1932. Deer horns up to 6" in length.

It is unusual to find a pair of deer antlers together. The heavier antlered members of the deer family are more obliging.

A fall will dislodge both antlers if it occurs at the right time.

I agree with the theory offered as to why more antlers are not found. The points are the main point of attack by rodents, which allows the beam to settle down and quickly become covered by grass, pine needles, moss, etc.

As an exception to the foregoing, however:—

About ten years ago I noticed the point of an antler sticking out of the ground at the edge of a swamp. Investigation proved it to be an elk antler, which had a covering of nine inches of moss, grass and fibrous roots.

It would be hard to determine the age of this antler, which must have been a relic of native elk, and is the only record that I know of, that elk were in the Athabasca Valley previous to those imported in 1921.

Moose shed earlier than deer, and elk later."

(Sgnd.) F. A. Bryant,
Warden, Jasper Park.

Wild Life Restoration Week

During the past two decades we have had a surfeit of special "weeks", most of them organized and commercialized for the stimulation of business. Some of these were inspired by lofty ideals of sentiment and patriotism, but they have mostly been diverted from these worthy objects to the more mundane sphere of high pressure business. However, the "Wild Life Restoration Week" held recently in the United States by proclamation of President Roosevelt was a spontaneous attempt by the different Conservation bodies, sportsmens' organizations, etc., to emphasize the importance of national interest and individual responsibility in the work of restoring the wild life natural resources of the country. By means of radio, the press, public meetings and exhibitions of one kind and another, a tremendous amount of public interest and enthusiasm was engendered.

In Canada we have not yet sponsored a Wild Life Week, but much is being done to educate the public to the value of our game and fish resources and the necessity for co-operation in every effort to conserve these valuable assets. In this connection we would like to mention the work of the Ottawa Fish and Game Protective Association which sponsored a splendid display of game fish and birds in the windows of the C. N. R. offices in Ottawa, with

appropriate pictures and messages urging the conservation of these resources. This display was part of the programme of the association for the stimulation of interest in the work it is doing for the development and perpetuation of wild life in the district. So popular was the display that it has been maintained for a second week.

We would also like to commend the Windsor Branch of the Essex County Sportsmens' Association, which secured space at the Builders' Show held all last week in Windsor and arranged a display of live animals and birds, supplemented by a number of stuffed specimens of game birds. The association had a man in attendance all the time and much conservation literature was distributed to interested visitors. There were splendid attendances all week and a great deal of effective publicity was obtained.

In a previous issue we mentioned the Conservation Week sponsored by the Kent County Sportsmens' Association; since then, the Norfolk County Fish and Game Protective Association has conducted a similar campaign with very gratifying results. On the whole, therefore, the possibilities of the "special week" are not being overlooked in Ontario, and work along these lines will doubtless be enlarged as time goes on.

Speaking of special effort, may we remind the sportsmen who have children attending public school of the essay competition being sponsored by the Ontario Federation of Anglers, and urge them to see that the kiddies enter this competition. Excellent helpful material is being published weekly in most of the newspapers throughout the province.

More About the Early Game Laws.

In a recent issue we reviewed hunting conditions from the earliest days and mentioned the Royal prerogative under which only the King or his court favorites, with his permission, enjoyed the right of hunting. The statutes and regulations governing those early days are quaint and interesting in view of our present democratic ideals. One of our readers has sent us the following extracts covering a definition of Game Laws from a volume published in 1866 and entitled 'A Dictionary of Science, Literature and Art'.

"By the Common law, which followed the old Forest Law, as introduced into the country by the Normans, all game was the property of the King. No person whatsoever could enjoy diversion of sporting, unless authorized by royal grant of a chase or free warren; and to kill a deer was deemed almost as heinous an act as to kill a man. But although at Common Law no person could with impunity encroach upon the kingly prerogative of pursuing game, yet those were exposed to the additional pains and penalties of the statute law who committed this offence not being possessed of a certain rank or dignity or of a certain amount of landed property. Strictly speaking, then, the superior condition in life of a party constituted the ground of his exemption from additional punishment, and not, as commonly supposed, a qualification to do that which was altogether interdicted, whether to the peer or peasant. But the aggravated offence under the

statutes, namely, that of sporting without rank or fortune, being in later times severely visited, while the original offence at Common Law was passed over, rank and fortune were, in the end, looked upon as a qualification; and a freehold estate of 100 pounds a year, or leasehold for 99 years of 150 pounds a year, or being the son and heir apparent of any esquire or person of superior degree, were accounted as so many qualifications. The Statute Law prohibited any persons whatsoever, whether qualified to kill game or not from making it the subject of sale or merchandise."

Apparently in those days of royal domination there were two Game laws, namely the Common Law and the Statute Law. By the former, hunting, without the Royal assent or "royal grant of a chase or free warren", was a heinous offence. Under the Statute Law, if you neglected to observe the Common Law, and were not a person of "superior rank or dignity" then woe betide you, for you were subject to the penalties of both laws. We can imagine that those were very trying days for the poacher!

Fishing

Fish can be bought in the market place
 But it isn't the fish I am after,
 I want to be free from the care-drawn face
 And back to an honest laughter.
 I want to get out where skies are clear
 And rest by the river brink,
 I want to get out where the woods are clear
 I want a few hours to think.

Oh! It isn't the fish I go to get
 But there's joy in the swishing line
 And a splendid thrill when my hook is set
 And a speckled trout is mine;
 But my soul seems cramped in the stilly air
 That is heavy with talk of gain,
 And I want to get where the world is fair
 And there isn't so much of pain.

Oh, fish can be bought in the market place
 But there's joy in the running stream,
 And I want to get free from the care-drawn face
 And the city of dreadful dreams;
 And I want to get out, just my soul and I,
 On some sun-kissed river shore
 And be, as a few mad hours rush by,
 The man that I am, once more.

—*Author Unknown.*



ONTARIO

Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

April
1938

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

Published to stimulate interest in the conservation of the Wild Life Natural Resources
of the Province of Ontario.

VOLUME TWO

APRIL, 1938

NUMBER TEN

Editorial Comment

WITH this number we conclude volume two of the Bulletin, being the first of the series in its present form. During the year we have attempted to keep before us the fact that the Bulletin has a special mission to perform, viz., the stimulation of interest in the conservation of our wild life natural resources, and the education of the public in the wise use of this valuable heritage. No attempt has been made to usurp the place of the sporting magazines, which are doing a valuable work along the same line, nor to enter the field of romance and story in connection with the recreational pleasures of hunting and fishing. It has been our object to present as simply, and as pithily as possible, the many difficult and complex problems with which the conservation of our wild life is bound up; to give in everyday language brief facts concerning the life history of many species of fish and game; to point out the responsibility of the individual in connection with the protection of our natural resources, and to encourage the work of the Sportsmen's Protective Associations and all other organized effort which has for its object the Restoration, Preservation and Perpetuation of our wild life. The activities of the Department have not been forgotten and we hope that the information which is published from time to time will serve to keep the sportsman informed as to what is being done in his interest.

And now, with the experience of the first two volumes behind us we would like to expand our opportunities for effective service by a closer contact with sportsmen and sportsmen's associations. We therefore invite our readers to assist us by contributing such personal experiences while hunting or fishing as might help us to a better understanding of the relationship which exists between birds, beasts, fish and plant life; or other ideas of a non-controversial nature along conservational lines—obviously matters of Departmental policy cannot be discussed in the Bulletin. Association Secretaries might also keep us informed of their activities so that proper reference could be made.

We acknowledge our indebtedness to the press for the additional publicity given to many of the articles appearing in the Bulletin, and hope that Editors will feel free to use any material they may find suitable for re-publication.

As a result of the educational and publicity work which is being carried on by sportsmen's organizations, nature clubs, the press, sporting magazines, and the Department, the public is today more conservation-minded than

ever before and this fact augurs well for the future of the movement. We believe that more real success can be attained through education than through prosecution, although human nature is such that enforcement will always be essential for protective purposes. With this in mind we pass from the old to the new, conscious of our shortcomings, but with the hope that our efforts to stimulate interest have not been entirely in vain.

—THE EDITOR.

Spring Is Here

As we write, April is well nigh over, the Easter holidays are now but a pleasant memory and the biggest fashion parade of recent years has had its hour of social success. During the month of April nature shares with man a welcome release from the cruel and capricious strangle hold which winter has held over everything for many months. It is a joyous awakening; the air throbbing with a new vitality; the trees bursting into life; the creeks, freed from their icy shroud, cascading with new hope; the birds and beasts responding to the call of nature and the thoughts of youth turning to romance and physical adornment. It is a month of colour and great expectations, in short, it signifies the arrival of Spring. With such a spirit in the air, the cares and worries which loomed so large on the horizon of our personal environment appear much less formidable as we view them through the rose-coloured glasses of Spring.

The rejuvenating influence of Spring is characteristic of the season. It is a call to the outdoors to view the great awakening; an invitation to play, to go fishing, and generally to renew that physical and mental fitness which should be the heritage of everyone. The philosophy of living has changed quite noticeably during the past generation. It is not now considered a virtue to consecrate oneself to work to the exclusion of all of the desirable things in life. The complexities of our present industrial and economic systems and the problems of our social life make it not only desirable but necessary that proper attention be paid to relaxation in leisure hours. It is relatively unimportant to attain material success at the expense of health, therefore, the urge to play is becoming of ever-increasing importance. In the great outdoors, in the heart of nature, there is a world of aesthetic and recreational pleasure not to be found elsewhere, and, with the coming of Spring, nature invites us to share in these joys. For the fisherman there are prospective thrills in each alluring stream, a promise of a big lunger in every pool and a chance to demonstrate his skill in every riffle; for the nature lover there is everything his heart craves and for the tired soul a calm and peace which soothes and comforts. For these reasons ever increasing thousands of men and women are annually taking to the lakes and streams of the Province in pursuit of health, happiness and the thrills which fishing affords. And so we re-echo the cry, "Spring is here", not around the corner where prosperity lurked so long, but here! How do we know? Well, the trees in the park are budding, the tulips are making their appearance and in a week or so the first

of the speckled beauties will be sizzling in the pan. Good luck to you, brother anglers, may your fishing expeditions be replete with all the thrills your heart desires. Remember, however, that the future of your sport depends upon you.

Help Prevents Forest Fires

The perpetuation and development of our wild life is so dependent upon habitat and environment that reforestation and stream improvement must be given their proper place in any scheme of practical conservation. The planting of trees where such is possible is good economic business but it is just as essential to protect the forest resources which we have. Probably the greatest single factor in the useless destruction of our forest wealth is fire. To control this menace an elaborate system of fire patrol has been established in the Province. This however, does not relieve the individual from his responsibility for seeing that, while in the woods, he takes every precaution to prevent an outbreak. The causes of fire insofar as the individual is concerned are too obvious and well known to require repeating here, while the possibilities in economic loss and human tragedy in a forest fire have unfortunately been dramatized too often to require further elaboration. Authorities have long deplored the indifference of the individual to the possibilities of damage by fire through the careless use of controllable fires or other mediums capable of starting a blaze. This fire hazard has always been a source of worry to those charged with administering the affairs of a country and frequently very severe penalties were provided for any act which might tend to cause a conflagration. The following excerpts from a proclamation of King Frederick, dated December 3, 1775, show that the forest laws for East Prussia were quite severe.

"Anyone starting a fire in or within 100 paces of a forest, or using a pitch torch or any fire when fishing or catching crawfish in any lakes and on streams or creeks flowing through a forest, or who smokes tobacco during the dry or summer season within a forest, even though no damage is done, shall be punished with a 4-week jail or penitentiary sentence, and, if any damage results, shall pay such damage; if he can not pay the damage, the period of imprisonment shall be in proportion to the amount of damage ascertained, up to 100 thaler, (\$75.00) one-fourth year, from 100 to 200 thaler, one half year, and 200 thaler and over, 1 year imprisonment.

"Any person wilfully or maliciously starting a fire in a forest, with intent of damaging such forest, shall be punished with a 10-year penitentiary sentence at hard labour and upon establishing the moral responsibility the sentence may be increased even to a death penalty. Anyone discovering and reporting such evil-doer shall receive a reward of 50 thaler."

It is not always easy, of course, to catch the evil-doer or the law-breaker, and so a great deal of co-operation is necessary to prevent and control. The sportsman is intensely interested in this problem, because the effect of a for-

est fire on game and fish is frequently disastrous. Let us visualize what happens when fire sweeps through a forest. If it is a slow conflagration the game perhaps has a reasonable chance to escape, and the consequent physical loss might not be heavy. On the other hand, even with a slow fire, it is obvious that nesting birds cannot take their eggs or young with them. Mature game animals such as adult deer, would probably be able to outrun the hazard but the immature fawn and the young of other species would find difficulty in making their escape.

If the conditions were such that the fire was of major proportions, fierce in its intensity, moving swiftly over the area and subduing everything in its path, then the destruction to wild life would assume heavy proportions, for even the fleet-footed deer would find difficulty in escaping.

From the standpoint of the sportsman however, the disastrous results of a forest fire cannot be completely appraised in terms of game destroyed. The flames which decimated the game also consumed the vegetation and seared the terrain making it impossible for surviving life to propagate and develop in the area. Nature will ultimately restore to the countryside a semblance of its former beauty and once more provide vegetation and cover for wild life, and game will return to the area, as the people return to the valley after the angry ragings of Vesuvius have subsided, but the process is a gradual one and the loss not merely seasonal. More and more we are appreciating the fact that an abundance of game is dependent upon suitable natural habitat, and that every fire which destroys that habitat restricts the range and lessens the opportunity for game to develop. It should be emphasized that the loss to game propagation is an accumulative loss for the process of restoration and re-habilitation is a slow one and even if the destruction of game has been small the damage to the environment will seriously affect its sporting possibilities.

There is another phase of the matter which enters into the picture. The immediate loss of game by fire in a given area may roughly be computed provided the conditions were reasonably well known, but what of the loss in relation to the future game supply? The combined effect of destruction of habitat and loss of breeding stock will seriously curtail the propagation and development of game in the area.

In a previous article we discussed the effect of forest fires on fish and pointed out that the destruction of shade trees, and the contamination of the water through the washing into it of ashes and silt was injurious to aquatic life. The fisherman as well as the hunter has, therefore, a vital interest in the prevention of forest fires.

The problems of forest conservation, reforestation and the preservation of game and fish are closely allied, and their solution requires the co-operation of every sportsman. In this connection, we quote the following by Col. W. B. Greeley, chief forester of the United States: "We must think of our forests not only in board feet of lumber or cubic feet of water or acres of land. We

must think of them in terms of deer, partridges, and game fish and all the other wild life that we inherited as a part of our virgin forest wealth. The perpetuation of wild life is recognized as one of the most important things to be accomplished in forest protection and reforestation, and every effort made to conserve our forests serves to preserve and perpetuate the wild life of America."

The vacation season is approaching and thousands of sportsmen will be seeking recreation and relaxation in the great outdoors, it is timely, therefore, to once more draw attention to the necessity for exercising care in every act that might conceivably start a fire. If hunters, fishermen and campers would take the necessary but simple precaution to see that all fires started for personal use were completely doused before being left and that lighted matches, live cigar and cigarette butts and pipe ashes were extinguished before being discarded, much effective co-operation in the prevention of forest fires would result.

Waste of any kind is sinful; unnecessary destruction of our natural heritage is criminal.

Smould'rin' Smoke

By KENNETH H. SMITH

If you love the lonely lakeland, son, and yearn for the timber tall; if you thrill when a bass goes leapin', son, and when the wild geese call—then you're sure to get my meanin' when I try to make my point, and you'll not be judgin' harshly if my reasonin's out of joint.

I'm just a-goin' to jump in, son, and tell what I got to say, unless you've got some work to do—if so, I'll go my way. No? Then I'll set and say my piece. It don't amount to much. Just an old outdoorsman's musin's on some smokes and smells an' such.

There's a skad o' smoke a-smould'rin' underneath this old felt hat, just a-bubblin' and a-boilin' 'til we start to chaw the fat. And, son, the mem'ries those smokes bring would well-nigh fill a book, for they span a lifetime's lovin' of the bullet and the hook!

I'll just pack my briar full, son, of the necessary weed, an' take a coal to light her up—now there's a smoke, indeed. A good old briar burnin', son, with me it tops 'em all—it's magic smoke that somehow seems to bind us, brothers all.

Now, I'll ask you, son, to go with me, to a time of long ago—when I was just a wobbly cub of six or seven or so. I 'member my old Daddy, how he'd take his old cane pole, and with a pail o' shiners, he would head for the old bass hole.

An' I'd sit there a-sniffin', and a-tryin' to hide my tears, 'cause Ma, she said, "No fishin', son, until you add some years". Well, there wasn't much

of smell right then, if it came to askin' me, 'cause my smeller, it was all choked up—an' my throat was too. Aw, gee!

But then, when Daddy'd get back home my tears was all forgot, 'cause I'd sniff the smell of his fish, his pipe—the whole delightful lot; an' son, I'd swear to myself that when I'd ceased to be a lad, I was goin' to go a-fishin' an' a-huntin', just like Dad!

Say! 'Member how in autumn time, with bonfires in the air the magic Indian Summer smell would sort of make you rare and snort around and paw and prance, 'til Saturday would dawn, when you could load the old smooth-bore and whistle "Sport! C'mon!"

An' 'member that black powder smoke you don't smell now-a-days. How it stuck and hung on misty air, a heavenly hunter's haze? An' you sniffed it in with a canyon grin, although it stung your nose? If you'd a tail, you'd'a wagged it then, smack dab back to your toes!

The heavy-hangin' wood smoke in the cabin on the lake—remember? Don't your old eyes smart when fire's on the make! Until she sorter starts to draw, with the draft exactly right, she fills your lungs and nose an' such, an' you're a smelly sight!

You open up the doors an' all, an' in comes good fresh air, and in two jerks the smoke's all gone, and only smell is there. That good old cabin's housed some smells that fairly make me wish that I was goin' there right now, to set an' smoke an' fish!

There's another smell that brings 'em back, those good old lakeland days—I don't refer to the pine trees' breath, or the fragrant camp-fire blaze, but to a fume that's got its use, when time is kinda short; an' outboard motor moves you fast, with all her rip and snort.

There's one more smell you can't forget—but 'tain't a pleasant one; that searin' scorchin' hell on earth, a forest fire, s' no fun! You can lay your bottom dollar, son, when timber blazes start, they blind your eyes, they sting your lungs—they well-nigh burn your heart!

Recall the chilly mornings, son, when your blanket feels so good; I mind of one (I'd won the toss) and Partner fired the wood and boiled the pot and fried the trout and cussed my lazy pelt—while I just lay and soaked it in—how good that breakfast smelt!

I'm gettin' old, my fires soon are goin' to cease to burn; but, son, I know you younger bucks will never cease to yearn for the smell and smokes of the outdoors, and I'll be a-steppin' out content to know, it won't be lost, that smell of sizzlin' trout!

Well, lad, my pipe is all puffed out, and I'll be on my way, with a thankee, lad, for list'nin' while I've had my little say. Our outdoors smokes are dwindlin', son—t'll be an uphill fight—but keep 'em smould'rin' for your son. God bless you, and good night.

—*The Minnesota Conservationist.*

The Yellow Pickerel

One of the most confusing things with which the fisherman has to contend in his attempts to familiarize himself with the various species of fish is the different nomenclature by which they are known in various parts of the Continent. The scientific names are invariably alike but these are beyond the understanding of the average person and too grandiose to be popular; on the other hand, the local names are so numerous as to be confusing. The subject of our sketch, which bears the scientific name of *Stizostedion Vitreum* and belongs to the perch family, is a good example of the difficulty which exists in identifying this species when referred to by its local name. In various localities in the United States it may be found under one or more of the following appellations: pike-perch, wall-eyed pike, yellow pike, blue pike, glass-eyed pike, salmon, and jack salmon, and probably some others, while in Ontario it is known as pickerel, pike-perch and dore. We are told that it was named *vitrea* in allusion to its large vitreous or glassy eye. This probably accounts for the names, wall-eyed and glass-eyed, but we can find no resemblance either in form or habits between the pickerel, as it is commonly known to Ontario anglers, and the pike. It is probable that it has been called pike because of its trim, slender "pike-like" appearance. On the other hand, in the United States, certain members of the pike family are called pickerel, so you see the whole business is confusion worse confounded. However, as in the case of the rose, which continues to smell just as sweetly even if called onion, *Stizostedion Vitreum* will provide just as much pleasure, and taste just as sweet no matter what it is called. As our regulations refer to it as Yellow Pickerel, we shall conform with this usage.

"The Yellow Pickerel", according to Nash, "is found in all the larger bodies of water throughout Ontario, more particularly in the Great Lakes and the rivers falling into them." It has become very popular during recent years, with an ever-increasing number of anglers, because it is an excellent eating fish and because its wide distribution makes it available when other sporting fish cannot be obtained.

Characteristics:—As already suggested, the Yellow Pickerel is rather shapely and streamlined. Its body is slender, while its head is tapered to fit the general scheme of shapeliness. However, the mouth is large and well filled with teeth, some of which are quite long and sharp. It has two dorsal, or back fins, well separated from one another, the foremost of the two having very sharp points or spines. There are variations of colours in different localities, but as a general rule the usual colour is olive mottled with brassy or yellowish blotches which form vermicular or worm-like markings. The sides of the head are similarly coloured and marked. The first dorsal fin is not much marked but has a jet black blotch on the membrane behind the last spine.

Habits:—The Yellow Pickerel is at home in water of considerable depth and is to be found in shallow water only when feeding or spawning. It spawns

in the early spring on a sandy or gravelly bottom. The eggs are small and it is computed that each female will average about fifty thousand at each spawning. After spawning it retires to deeper water and by mid-summer locates in the deepest pools of the lakes or the swift waters of the streams.

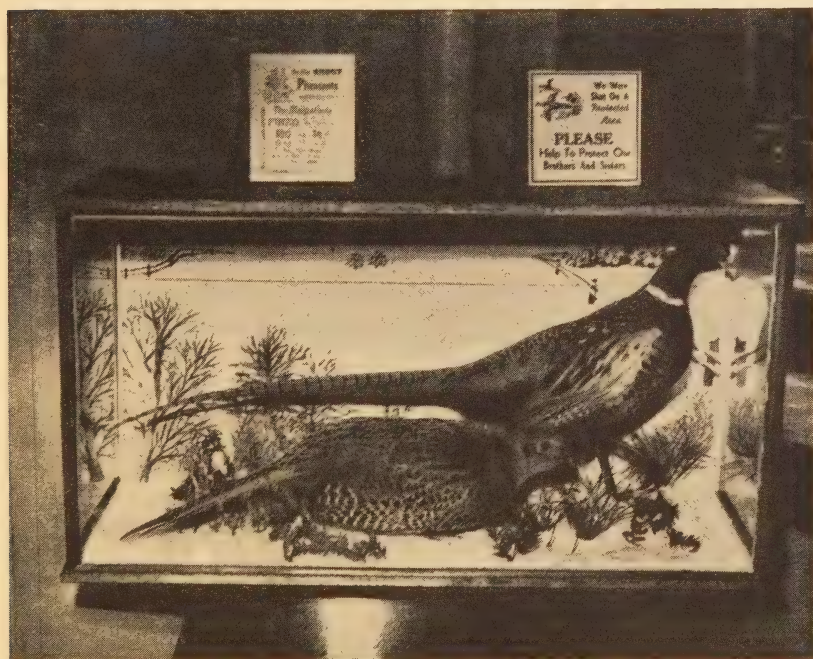
The pickerel is a reasonably good game fish and will readily take live bait, being of a very voracious nature. It will also respond to the attractions of an artificial lure and rise pretty well to a fly which has been allowed to sink two or three feet after each cast. As a fighter it does not compare with the bass, muskie or speckled trout, but at the same time, it is not taken without considerable struggle, its pulling, tugging and jerking making it necessary for the angler to exercise care when using light tackle. What it may lack in fighting qualities, however, is amply compensated for by the quality of its flesh as food. In this respect it is one of the best of our fishes, in fact by many it ranks first, its flesh being firm, flaky and of excellent flavour. Because of this it is of great economic importance and is a commercial product in most of the Great Lakes waters. Over 265,743,000 hatchery-raised pickerel fry were released in the waters of the Province in 1937. The season for Yellow Pickerel opens generally on May 14, this year.

Publicity and Education

For originality, coupled with a fine understanding of educational and publicity values, we heartily commend Provincial Constables R. J. Whiting and A. F. Grant, of Sarnia. It appears that, as a result of the establishment of two game preserves in the County of Lambton, and the release of a number of pheasants in these areas there are now a large number of ring necks in the district around Sarnia. Poachers, however, have been shooting off these birds and arousing the ire of all decent sportsmen. It was not surprising therefore, that on December 28th last, one of these indignant conservationists called up the officers and gave them a tip which resulted in the arrest and conviction of one of the offenders. This part of the story is routine work, but for the sake of a proper understanding of the case, let us briefly summarize the facts. The information was to the effect that hunters were shooting in a dense bush just beyond the city limits. On the face of it the shooting might have been legal, for rabbits were still legitimate game, but it was known that pheasants and quail were rather plentiful in the bush, so the officers were suspicious. They patrolled the area, discovered the hunters' car parked on the roadside, and kept a close watch until the hunters returned to it from the bush. Their vigil was rewarded. One of the men was carrying two pheasants in addition to a shotgun. He was arrested and both birds and the shotgun were seized. Appearing before the Magistrate a couple of days later, he was fined \$20.00 for each bird, plus \$8.50 costs, a total of \$48.50, while the birds and the gun were confiscated.

The sequel to the story and the reason for these comments is contained in a subsequent report from one of the officers received early this month. Says the report: "After disposition of the case the pheasants were suitably

mounted for exhibit by a local taxidermist. This exhibit has been in great demand, locally, and has been loaned to various Public Schools in this vicinity to be used in nature study classes, etc., for the pupils, and to date has been exhibited at most all the local schools. Two local sporting goods shops have asked that the exhibit be loaned them to be placed in their shop windows, along with two cards seen in the photograph. We are of the opinion that, since the Department and local sportsmen are anxious to have these birds protected and made plentiful in this area, this is a very good medium for public education." Accompanying the report was the photograph which we reproduce herewith. The cards which accompanied the exhibit attracted our attention; they carried a sympathetic appeal and a pungent warning. Our interest was aroused; we felt the idea worth commending, but to do this effectively we required to know the inspiration behind the exhibit and who bore the costs of same, so we asked for further information. The following brief and modest report provides the answer: "It was decided by Provincial Constables Whiting and Grant, the arresting officers, that the most suitable disposition of the dead pheasants would be to have same mounted, to be used for educational purposes. The cost of having this done was borne equally by these officers. The Sarnia Canadian Observer, local newspaper, obligingly printed the two cards which are seen placed on top of the exhibit and which accompany it whenever and wherever it is on display."



—Photo by Canadian Observer, Sarnia.

The wording on card No. 1 is:—"Do Not Shoot Pheasants. The Magistrate Fined One 'Sportsman'? \$20.00 per Bird and \$8.50 in Costs for This Brace and the 'Sportsman'? Didn't Even Get the Birds." We might add that he also lost his shotgun!

Card No. 2 says:—"We were Shot on a Protected Area—Please Help to Protect Our Brothers and Sisters."

The photograph also was taken by the Sarnia Canadian and reproduced in that newspaper with a suitable warning regarding the illegal shooting of pheasants.

As we said at the beginning, the idea was both novel and effective and we extend our thanks to all those who took a part in this excellent conservation work.

Concerning Illegal Taking of Maskinonge

From a sports column in the Toronto Telegram we quote the following extracts from an Editorial in the Peterboro Examiner:

"The natural propagation of fish in these waters is going on with an increased number of wardens doing their best to prevent enemies of the State from netting, spearing or otherwise catching the fighting muskies.

"Talk to the experienced guides and they will tell you about their scores of friends across the border, fishing enthusiasts who come up here for a holiday, and spend their money here. These men will soon convince you that these tourists come from Ohio, New York, Pennsylvania, and so on, for fishing.

"If there was only some way of forcing that idea upon the public mind, men who would think lightly of buying fish killed at this season, would become the most convinced and ardent supporters of the law.

"If you could see the 'lunge in their mating season, big fish led by instinct into the shallow water along the shore where any boob can spear or net them, you would flame with indignation at the shame of it and want to see every poacher, every purchaser of contraband fish thrust into jail."

In a brief comment the columnist facetiously remarks, "If they want that sort of easy fishing they could take a net and a spear down to the St. Lawrence Market and take a shot at a Finnan Haddie"!

The practice of illegally taking game fish—by any means—while on the spawning beds is a deplorable one, and should be roundly condemned by every decent citizen. Our first impulse is to cut loose and pin a few uncomplimentary epithets on the heads of those who thus destroy a valuable heritage, but the niceties of official decorum prevent us from so doing. Nevertheless, we believe we are justified in remarking that any man who takes fish under these conditions, with any notion that it is sport, has a perverted idea of what constitutes recreation. There would be considerably more thrill in "taking a shot at a Finnan Haddie" in the market place, for in that case the poacher would at least have the proprietor to reckon with and the haddie would still have a reasonable chance of continuing to "rest

in peace" on its marble slab. The spawning fish, whether they be Maskinonge, speckled trout or pickerel, which make their way into the shallows in large numbers while under the spell of the reproductive urge, are physically sick and mentally sluggish and therefore easy prey for any "boob", as the Examiner so aptly describes him—who sets out to encompass their destruction.

But it is not alone the illegal destruction of the parent fish that makes all decent sportsmen hot under the collar, it is the fact that countless thousands of prospective young fish are destroyed in embryo without even a chance to survive. The economic value which the destruction of these fish represents is a serious matter to the district and the unnecessary waste is a very great handicap to the Department in its efforts to keep the waters of the Province perpetually stocked with fish.

In the case of the Maskinonge, artificial reproduction is a problem fraught with many difficulties because the culture of this species beyond the fry stage has not yet been found economically practical, although a great deal of experimental work is being done in this connection. Because of its size and its fighting qualities, the muskie is much sought after as a game fish and we can well understand the righteous indignation of the Examiner, speaking for the people of the district, at any indication of illegal waste.

As mentioned by the Examiner, the Department has taken steps to keep the loss down to a minimum by the appointment of seasonal officers whose duty it is to patrol the waters in certain areas where fish are spawning and prevent illegal destruction. These men, together with the permanent officers, have been extremely busy lately and are doing good work. However, they cannot be everywhere, therefore the sportsmen and all those interested in the tourist business must be prepared to accept some responsibility in the matter. They can best do this by preventing abuses and infractions of the law, and by notifying the proper officers when information in this regard is available. The poacher deserves no sympathy because the results of his depredations are serious, and anyone who encourages his activities through purchase, or otherwise, is equally to be condemned. It is gratifying to know that public opinion is being aroused to the economic and recreational value of our fish and game and the necessity for the prevention of waste in order that we may build up these resources, and ensure their perpetuation for the benefit of future generations.

Locating the Hungarian Partridge

Some time ago we were on a visit in Eastern Ontario and in the course of conversation with the District Overseer, he proudly informed us that they had quite a lot of Hungarian Partridge in the district; in fact, he openly boasted that he could take us out anytime almost, and show us several coveys. We were extremely interested in this information, for it was felt that the attempt to introduce the "hun" had not been very successful, so we

suggested he make good his boast and introduce us to this very desirable species of game bird. A ten or twelve-mile trip past the spots where the birds were usually to be seen produced no results. Our guide was somewhat embarrassed, but he insisted that they were somewhere around, although for the time being they had gone elsewhere. We assured him that, under the circumstances, we would be glad to take his word for it, and perhaps some other time our search would be more successful. When more than half way home again, he suddenly decided that he would like to go back two or three miles for another look, because he had a hunch we had just missed them. We turned back, and sure enough, about two miles down the road we found a covey of about twelve or fifteen of these flashy blue-grey birds scratching on a thin covering of snow just off the highway. It was a pretty sight and we felt keenly elated when the Overseer assured us that there were many coveys of them in the district.

Recently the Reeves of two municipalities in the southwestern section of the Province called at the Department on business pertaining to their municipalities, and in the course of a discussion on the game situation, both of them informed us that they had just as many hungarians as pheasants in their respective townships—both are adjacent—and that was saying a lot. “Anytime you care to come over, I’ll be glad to take you out and show you lots of birds”, said one of the men by way of emphasizing his statement. The other made it equally clear that we could count on him for the same practical demonstration of what was very pleasing information.

The other day we had occasion to pay a visit to the district and took the opportunity of calling upon one of these gentlemen to show us around an area which we were inspecting as a prospective game preserve. We had barely started out when our host drew our attention to a cock pheasant standing at the edge of a field looking quite forlorn, as if he had lost, or not yet found his mate. It became rather a common sight after that, for, in the course of our tramp over a limited area we counted six other cock birds. An interesting sight was that of a large great horned owl being relentlessly pursued by a flock of crows whose babel was almost deafening. Every once in a while the owl would rest in a tree and the crows would swoop down and dart at their enemy, screaming angrily the while, until the owl would be forced to take wing once more followed by his merciless pursuers.

“Sorry we haven’t seen any Hungarians yet”, said our host, “but they have divided into pairs and gone nesting and will probably be harder to find.” However, as we tramped along he suddenly motioned us to be on the alert as he had seen what he thought was a bird, moving in the grass.

A few more steps and we flushed a couple of fast-moving “huns”. “Well, that’s that”, he exclaimed, “at least you know they are here. A few weeks ago there were twenty or more feeding around that barn across the way but the mating season has caused them to scatter and disappear.” For us it had been a most interesting day.

The other evening we attended a banquet and sat next to a well-known bird-dog sportsman. Naturally, in the course of our conversation, the talk drifted to the subject of dogs and upland game birds. This man has covered a great deal of territory in pursuit of his hobby and was quite enthusiastic about the numbers of pheasants and Hungarian Partridge he had discovered while working out his dogs. We knew the pheasant had become fairly well established and so we sought for information on the Hungarian. As open seasons for the "hun" have never so far been proclaimed in the townships, he mentioned we refrain from giving the names, for obvious reasons. However, he told us that the birds were quite plentiful in these areas and suggested that anytime we desired verification of his statement he would be glad to go with us and guarantee that his dogs would find plenty of them. It was confirmation of information we already had as to the development of the Hungarian Partridge in this section of Western Ontario.

We mention these incidents covering widely separated areas by way of introducing the subject of the following article, and to assure the sportsmen that the natural propagation of the "hun" is meeting with a reasonable measure of success, even if its development has not been spectacular.

The Hungarian Partridge

The Hungarian Partridge, as its name implies, is an exotic or non-native bird. It has its natural habitat in most of the countries of Europe, but is, or was, particularly prolific in Hungary and the neighboring States. The reason given for the large numbers of birds in these countries is because there are vast fertile plains upon which cereals are extensively grown, and as the peasants do not live on their arable lands but in villages which are often several miles apart, there are, therefore, many square miles of cultivated land without any habitation within sight. As a consequence the birds are largely undisturbed, and as there is an abundance of food, and the climate is very suitable, their numbers increase quite rapidly.

The "Hun", as it is called for short, was introduced to Alberta in 1908 by a group of sportsmen who were a little disconcerted by the decline in numbers of the native sharptail grouse and wanted to forestall the time when these birds would probably have disappeared. The original importation, according to an article by Seth Gordon, in *Field and Stream*, consisted of only 185 pairs and yet five years later the bird was being hunted. The success of this original experiment was so marked that funds were raised by public subscription and further importations made. In all, Alberta's original stocking consisted of some 800 birds. The development of the species was phenomenal. Open seasons were long—as much as three months—and bag limits very generous—as many as 15 birds daily and 200 per season. The stories about the number of birds seen appear fantastic to those of us who perchance have always done more "hunting" than "shooting". It was a commonplace thing to flush

dozens of coveys of birds, with between twenty and thirty birds to a covey, in the course of a day in the fields. So rapidly did the birds increase that they overflowed into Saskatchewan, Manitoba and the neighboring States to the south.

The first official record of the birds in Ontario is a report from Leamington in 1914 to the effect that the Hungarian Partridge appears to be on the increase. However, during the period 1927 to 1935 approximately 2,500 of the birds were released in the Province, and open seasons of two days or so have been proclaimed in certain sections for several years.

The development of the "hun" has been rather an enigma. He has made rapid strides in the Prairie Provinces and two or three neighboring States, in other States his development has been somewhat slow, while in still others, despite large importations and releases, he has failed dismally. His progress in Ontario cannot be considered spectacular, but reports seem to indicate that the birds are annually becoming more plentiful and as the "hun" is a prolific breeder, it is hoped the species will become well established.

The marital instincts of the "hun" are particularly interesting, in fact the domestic felicity of the male bird is on a par with that of the male black bass. The female bird is not quite so unconcerned with the matter of raising a family as is the female bass, but her maternal instincts are dominated by the pronounced concern of the male for the upbringing of the family. In the event that the female leaves the nest for any reason during the incubation of the eggs the cock takes possession, and the mother often has quite a fight to drive him off again. Where they have been raised more or less artificially, it has been demonstrated that the maternal instincts of the male are so pronounced that he has no particular difficulty in inducing the young to forsake the mother bird and follow him. This characteristic frequently brings about family dissension, but as a rule the domestic ties are not disrupted thereby. Where they are bred for sale, or otherwise, it is customary to allow the male bird to take the chicks and it is stated that he raises the brood better than the hen. In the wild the birds prefer to remain in separate family units and this relationship continues until the following spring when the mating season again comes around. Sportsmen will have noticed that the birds are nearly always found in coveys, except during the mating season when the family ties are severed and the young proceed to follow their natural instincts.

When it comes to mating, the female does the choosing and the male succumbs without argument. Game breeders have found that if they try to advance the matrimonial relationship by selecting a male, and that selection is not to the liking of the lady, the unfortunate swain will be lucky to escape with his neck. This probably accounts for many failures in endeavouring to establish the bird. Where single pairs are released the relationship may not be congenial and failure is certain, for while the birds will probably stay together they will not mate. Under natural con-

ditions they are to be found in coveys and so it seems desirable when attempting to establish the bird in new areas to release them in sufficient numbers to assure choice, as well as companionship.

The "hun" has clearly demonstrated his ability to stand up under severe climatic conditions. In North America he has done best in the Prairie Provinces where the winters are certainly not mild and food must of necessity have been hard to obtain.

As a sporting proposition the Hungarian ranks high. He is fast on the wing and flushes like a bolt from the blue. In comparison, the pheasant is slow moving. If you have never had an opportunity of bagging a "hun" you have a surprise in store for you. It takes an experienced wing shot to get his limit even where the birds are most abundant.

Changes in the Game and Fisheries Laws

Among certain changes in the laws for 1938 are the following:

In the Counties of Essex and Kent a bag limit of six cotton-tail rabbits per day has been established and the sale or purchase of cotton-tail rabbits prohibited in these Counties.

Certain extensive areas in Division "B", Northern Ontario, have been closed to moose hunting. (Particulars of the areas closed will be found in the blue book.).

To avoid confusion it is pointed out that non-residents angling in the Province under authority of a license may export two days' catch of all species except Maskinonge. In the case of Maskinonge the regulations provide for the export of one day's catch.

BROTHER ANGLER

Have you considered the fact that your boy, and the youth next door, are eager to learn everything they can about fish and fishing? Why not give them the benefit of your experience and knowledge and by practical demonstration teach them the ethics of sportsmanship and the value of conservation?

'Neath the Cedars Tall

I know where 'neath the cedars tall
A little brook winds out
Through tangled swamp and ruined wall
With many a ripple musical
And many a silver waterfall,
O'er pools for speckled trout.

From budding maples a glow
Like sanctuary fire;
O, let me take my staff and go
Where early blossoms mock the snow
And meadow larks sway to and fro,
A joyous vernal choir.

The spring is pulsing in my heart,
Urging me forth again
To some far woodland scene apart,
Where shadows through the waters dart,
Or forest creatures pause and start
In magical terrain.

A while shall pass the busy care
Of street and desk and book;
And singing through the April air
With rod and blanket will I fare
To seek thy passage debonair,
My blessed April brook.

F. H. McMAHON,
North Dakota Outdoors.



ONTARIO

Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

May
1938

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Conservation and Co-operation

CONSERVATION and Co-operation are two words which loom large on the educational horizon of the sportsman. The two are being vigorously stressed as the key to a fuller enjoyment of that wonderful heritage—our wild life resources—with which nature has so bountifully blessed us. Conservation in its broadest sense and as applied to wild life, is the effort to keep pace with modern conditions; to profit from past experiences resulting from misuse, and, through wise management maintain an adequate supply for present and future needs; to provide proper control and protection based on knowledge and experience; to restore natural conditions wherever possible and to ensure development through natural and artificial propagation. It is a commonsense programme so obviously essential to good management that it should appeal to everyone interested in the safe-guarding of a valuable asset.

The carrying out of such a programme is, of course, fraught with many difficulties. Through the social and economic development of the country environmental wild life conditions have undergone many changes of an adverse nature, which have seriously interfered with natural development. This is particularly true in those sections which have been heavily settled and where the peaceful pursuits of rural life have given place to intensive cultivation and industrial expansion. Both destroy food and habitat so necessary for the perpetuation of wild life. These conditions are permanent; they are a part of our present civilization and cannot be materially changed. The Conservation programme takes cognizance of the fact and is seeking to make the best of the prevailing situation by advocating restoration of natural conditions wherever possible, and by the introduction of species suitable to the environment. This is exemplified in the introduction to Ontario of several non-native species of fish and game birds, such as brown trout, English ring-neck pheasants and Hungarian partridge. Intensive propagation of fish by artificial means and the heavy re-stocking of provincial waters is a serious attempt to meet present conditions and keep pace with the demand.

Obviously, natural conditions have been interfered with and can never be re-created, but in addition the sportsman has, for the most part, concentrated his energies on certain desirable species which as a result have suffered a dual handicap. Such species are not only subject to

the laws of nature, which decree the survival of the fittest, but are also subject to the depredations of the human element. In the present state of our knowledge it would be unwise to interfere unduly with any of nature's plans, although we are successfully assisting nature by artificial means. However, we can control the human factor, and the necessary laws and regulations which have been provided are the means to that end.

The sportsman can best co-operate in the conservation of our fish and game resources by observing the laws himself and by his assistance in educating others to the necessity for so doing. The average citizen respects and observes the law however much he may be disgruntled by some of its provisions. It is true, however, that the weight of public opinion has a great deal to do with the success of any measure which is restrictive in its application. The Game and Fisheries Laws have the approbation of every good sportsman. They are restrictive only to the extent necessary to provide better sport. They embody the result of knowledge and experience and are conservation measures of the utmost importance. The good sportsman may not always agree with the legislators regarding some of its provisions but he is content to be guided thereby. Unfortunately, there are certain individuals who have the idea that the Game Laws are in a class apart from the moral laws and may be broken without any qualms of conscience. When the individual represented by this class gets off by himself, or in the company of others of like mind, on a fishing or hunting trip and thinks the odds of getting caught are all in his favor, he does not scruple to take illegally. A few little fish, or a few extra, he argues—if he gives the matter any thought at all—will make no difference to the fishing, and nobody will be any the wiser. We do not pretend to understand the psychology of the man who reasons thus, but we do know that his mental attitude is wrong. The fisherman who must hide his catch has nothing to be proud of, whereas the good sportsman glories in his pride of possession. Obviously the taking of two or three undersize fish, or one or two over the limit by one individual would not seriously jeopardize the fishing in any particular water, but when this is repeated by thousands of fishermen the cumulative effect is serious. The individual who treats the matter lightly fails to recognize that if everyone adopted the same attitude the result would be disastrous. Apart from this fact, however, there is the moral obligation to play the game in the interest of the sport and this can best be done through observing the rules and regulations and by co-operating with those who are working to better conditions in field and stream.

The co-operation of the good sportsman is also required to ensure the elimination of the poacher; the man who deliberately sets out to break the laws. His depredations are extremely harmful because he is entirely without scruples. It is pleasing to note that a large measure of assistance is being rendered in this regard.

Speaking in a general way, it may be said that the fisherman is a major factor in any effort to improve fishing. With the public conservation-

minded, and the co-operation of the individual as well as organized effort definitely behind the Department, the future of the sport and the perpetuation of the resources which make it possible will be assured.

The Smelt

During the latter part of April we were in Midland and while there discovered the chief topic of conversation among anglers was the influx of smelt in tremendous numbers, during the preceding ten days or so, to certain of the creeks in the neighborhood. It was a unique sight to many people of the district and they were not slow to discover the food value of these silver-like fish and how easy it was to obtain a supply from the masses of fish making their way to suitable spawning grounds. From other sections of the Georgian Bay also, came reports of smelt in large numbers, paying a first visit to local creeks and providing both food and excitement.

The smelt is a comparative newcomer to Ontario waters although records show that specimens have been taken at different points within the past decade and that for several years the north shores of Lake Huron and Georgian Bay have annually witnessed the spectacle of millions of these fish making their way up the creeks during the reproduction season. While the smelt is not a game fish, its peregrinations and development in the waters of the Province are of interest to the sportsman.

The smelt gained access to the upper Great Lakes through plantings originally introduced in 1912 by the State of Michigan. In that year several million smelt eggs were deposited in Crystal Lake, Michigan, but mature smelts were not noticed in this lake until 1922. A year later they appeared in Lake Michigan near the outlet of Crystal Lake. From Lake Michigan the fish made their way into Lake Huron. In December, 1931, a specimen caught in gill nets off Tobermory was submitted to the Department for identification. About the same time they were taken in herring nets at the south end of Lake Huron. In the Algoma district they were noted and reported in 1932, and succeeding years have witnessed their spread all along the north shore. The fish also made their way down the Georgian Bay coast of the Bruce Peninsula and a specimen caught off Cape Croker was submitted to the Department in March, 1936. By April of this year they had continued their journey and were found in large numbers in Colpoy's Bay, near Wiarton. Further reports from Midland and other points this spring show that the smelt has now become thoroughly established in the waters of the Georgian Bay. A few of the fish have already made their way into Lake Erie and it is altogether likely that the migration will continue into Lake Ontario.

Appearance: The smelt is a very slender fish of silvery hue, and with minute, loose scales. Its tail is forked and it has a very complete mouthful of tiny, sharp teeth. The maximum size is probably 14 inches and the weight approximately half a pound. However, the average size of the fish is considerably less than the maximum, being from seven to ten inches.

There are other species of smelt, not found in these waters whose maximum size is only a few inches. It is believed that the name smelt was derived from the Anglo-Saxon word, "Smeolt" meaning bright and shining and suggested by the transparent appearance of the fish.

Habitat: For the major portion of the year the smelt is to be found only in deep water. During the spawning season the fish make their way up the tributary streams and creeks in countless thousands, and after the period of reproduction is over, depart once more into the deep water of the lake. Except during the spawning season they are difficult to control, because small meshed nets would be required to take them, and the use of these would be destructive to immature trout, whitefish and other valuable commercial fish.

Value: The smelt was originally introduced into Michigan waters as an addition to the supply of food fishes in the Great Lakes and larger inland lakes. It was part of a scheme to introduce and develop the land-locked salmon—as the smelt inhabit the lakes where the salmon is found and form a major item of its food. Because of this it was thought that the successful propagation of the salmon in Michigan waters was dependent on an abundance of smelt and so the two were planted together. As a fodder fish, it probably has a great deal of value, because of its size and prolificness—each female smelt will cast from 20,000 to 25,000 eggs—but it has been found that its own food consists largely of fishes such as shiners, minnows and the young of other fishes, while it has no aversion to dining off its own kind.

In Michigan, it is said that smelt soon outranked perch as the principal species caught during winter fishing through the ice, and provide not only recreation to sportsmen, but employment to large numbers who would otherwise be unemployed. The latter sell their catches to local buyers at a price averaging fifteen cents per pound. Of course, the majority of the marketable fish are taken during the annual spring run and the price drops off considerably at that time. Because of its fine edible qualities there is a fairly good market for the smelt.

In a report issued by the Michigan Division of Fisheries, we find the following: "Aside from the direct and indirect commercial values, not to mention the recreational value, the smelt are being utilized as food by other fishes, which may help to increase the abundance of these fishes and somewhat control the smelt population. Lake trout, and rainbow trout in Lake Charlevoix and Lake Michigan have been found feeding on smelt; wall-eyed pike in Bay de Noquet, or Northern Lake Michigan, were found gorged with them, and black bass were reported feeding on them." And in a newspaper article describing fly fishing for smelt, taken from the same report, we find this statement: "Small-mouth black bass are following the smelt into the northern bays in great numbers and bass fishing is said to be the best in years. The fish are so plentiful that they are almost a nuisance in

the nets of local commercial fishermen." While these facts afford some interesting information on the value of the smelt as food for other larger fish, it is important to note that the State of Michigan has been unable to control its spread, or tremendous increase in numbers and that such a situation is fraught with difficulties.

It is too soon to determine the ultimate effect upon other commercial and game fish of the introduction of the smelt to the Great Lakes waters. Its development has been rapid and, of its own accord, it has spread over a large area. With this in mind one may safely assume that in a few years it will occupy all of the Great Lakes area and connected waterways to which it has access and where conditions are suitable for its development. Although a comparatively small fish, the smelt can feed in deep water and is, therefore, suited to a wide range, and its migratory possibilities are unlimited. Up to the present no serious difficulties have arisen and the predaceous instincts of the smelt which cause it to prey upon the young and spawn of other species are counter-balanced by the fact that it is providing excellent food for other larger fish. The Department is alive to the situation and is endeavouring to discover the result of the influx of the smelt upon other fish life in provincial waters, with a view to taking whatever steps may be deemed advisable.

The spring smelt run has become an annual carnival at the Village of Beulah, in Michigan. How it originated is interestingly and graphically related in this extract from the Grand Rapids Press, dated August 26, 1935:

"Beulah, Aug. 26.—When Newt Ely, Benzie County Clerk, went briskly about his early morning chores one day in the spring of 1918, he little dreamed that before nightfall he would become the discoverer of Beulah's famous smelt run. In fact, he didn't know a smelt when he saw one.

"Ely took two water pails from the woodshed and walked down to the little creek which sweeps swiftly past a short distance back of his house. It was wash day and Mrs. Ely had reminded him to be sure to fill the tubs before he went to his office.

"At the creek he dipped a pail into the foot-depth of crystal clear water with the indifferent motion of established habit. The pail felt strangely heavy as it came up. Newt paused to look at it. His tune stopped in the middle of a note. He stared in open-mouthed astonishment.

"In the bucket was a wiggling, flipping mass. He rubbed his eyes and stared again. Instead of a pail of water, he had a pail of fish—little, sardine-like fish, about eight inches long. He turned to the creek. Again he rubbed his eyes. The six-foot width of the water was filled from bank to bank with a teeming, struggling mass of fish, all headed upstream. Some even were crowded above the water.

"He hastened to his next door neighbor, P. A. Reed, proprietor of the village shoe and harness shop. 'I never saw so many fish in my life!' he

declared. 'Why, the creek's full of them! There's millions of 'em! Millions!'

"The news spread rapidly and by late afternoon excited groups were gathering along the creek to view the phenomenon of a stream which contained more fish than water to hold them. Some brought dip nets, but the general attitude was then one of wonder and curiosity, and dipping on a wholesale scale was not thought of. Thus Beulah experienced the first taste of a genuine smelt run in cold creek."

The Value of Proper Guidance

The collecting of postage stamps is a fascinating hobby for both young and old. It has been popular for generations, and today has probably a larger following than ever. The writer recalls that, as a youngster, the collecting of birds' eggs vied with that of collecting postage stamps as a popular pastime. Roaming the woods and fields, particularly during weekends, in search of birds' nests was a favorite recreation, and competition for the honor of having the largest and most varied collection of eggs was very keen. A system of trading prevailed and was carried on in much the same manner as stamps are exchanged. The destruction of bird life must have been tremendous, yet robbing a nest of its eggs occasioned little more than mild reproof of a sentimental nature. As we recall it now, there were no restrictive laws, at least if there were, nobody seemed to know or do anything about them. As a matter of fact, the hobby was more or less encouraged because of its educational and nature study value.

We have made tremendous progress since those days. The economic and aesthetic value of bird life has completely changed our attitude, and resulted in the almost total abandonment of a pernicious practice. The taking of the eggs of song birds of all species, as well as other migratory and non-migratory birds, is now prohibited by law. Boys are taught that it is not only illegal, but very unsportsmanlike to rob the nests of wild birds, and the boy who does such things is mighty unpopular with his fellows.

Viewing the matter in retrospect, we are forced to admit that the youth of past generations was not to blame for a practice which, in the light of our views on conservation, was ill conceived. He lacked knowledge and proper guidance and saw nothing wrong in carrying on a fascinating hobby. It was wanton destruction, however, which might have been avoided through education and the force of public opinion.

The necessity for instruction and enlightenment in the protection of all wild life is an important phase of the conservation movement. The laws in connection with fishing and hunting are clear and definite, but, unless the youth of the province are familiar with these laws and the moral and economic effect of non-observance, they will not serve their purpose. For example, the youth who is given an air gun, or a .22 to satisfy his inherent

desire to hunt, will, unless he has had proper guidance, sally forth and, more or less innocently, proceed to break several laws. He probably begins by firing his gun within a municipality where there is a By-law prohibiting the discharging of firearms. Then he wanders farther afield and is attracted by the cavortings of a squirrel which to his youthful eyes assumes the status of big game. The shot he fires may not hit the squirrel, but there is no open season for such game, so the Game Laws have been broken. While he wanders around trying to locate the squirrel again, a woodpecker flashes across his vision and settles on a tree to begin its rhythmic tattoo. Instinctively the gun is raised to his shoulder and in a flash another law has been broken, viz.: "The Migratory Birds Convention Act". This is not an isolated or exaggerated picture. The actions described are commonplace where lack of knowledge prevails or where the influence of proper direction is lacking. In order to possess a gun for hunting purposes the boy must be at least 16 years of age, and at that age, should have some understanding of the existing conditions and the ethics of sportsmanship. It would be fitting that he be instructed in these before permitting him to use a gun. This instruction is primarily a parental responsibility, but every sportsman and nature lover who has at heart the protection of our wild life must do his share in that regard.

The same general remarks apply to fishing, except that the need is more imperative, for there are no age limits when it comes to angling. The youngster of eight and the veteran of eighty will be found side by side, both enjoying in their own way this fascinating sport. Where age is concerned there is no excuse for non-observance of the regulations, but the boy frequently lacks experience and because of this his innocent pleasure can be a serious stumbling block to the work of conserving our fish life. Thousands of these youngsters spend a great deal of time during the holiday season still-fishing for anything that will take a bait. The little fish afford them as much thrill and pleasure as the bigger variety. This is as it should be, provided, of course, that the "kids" know their fish and are not despoiling little bass or other protected fish. Unfortunately, to the youngsters, fish are fish, whether they be bass or "pumpkin-seed" and all are legitimate prey. The cumulative effect of this widespread taking of illegal fish may be quite serious, but, as in the case of the birds' eggs, one can hardly blame the boys. To offset this, the youngsters must be taught the rules of the game and how to distinguish the different species. It is the duty of every sportsman to convey the necessary information whenever and wherever possible. The task will be found to be a very pleasant one, for the youngsters are enthusiastic and thoroughly enjoy their fishing associations with grown-ups. They want to obey the law: let us make sure they do not fail from lack of knowledge.

The practice of collecting birds' eggs became unpopular when it was forbidden by law, and the law was backed by public opinion. The pro-

tection of our wild life resources is fully covered by laws which, for complete success, require the weight of public opinion behind them. Where youth is concerned, enlightenment and proper direction through precept and example will largely solve the problem. In the case of the adult, who knows the laws but treats them with disdain, the moral effect of public co-operation with the enforcement officers is both salutary and restraining. What has been accomplished in preventing the destruction of birds' eggs can be realized in the prevention of the illegal taking of fish and game, and the results would be equally gratifying.

Pity Is - 'Tis True

Speaking of the innocent destruction of little fish by youngsters, brings the blush of shame to our adult cheeks, for it reminds us of that parcel of confiscated fish which came to the Department the other day from one of the overseers. The package contained 236 speckled trout, only one of which was, or might have been, within the statutory size of seven inches. They ranged from two inches up, and the average size would probably be less than four inches. As we gazed at them laid out on a board, we burned with indignation that any fisherman would have so little respect for the law or the ethics of sportsmanship as to take and keep such a large number of minnow-sized fish. We found out, however, there were five men in this party of piscatorial experts and that all were equally callous in their disregard for the law. One man had 73 in his possession, while only one of the others had less than 40 and he had more than the legal bag. Looking at the fish, we wondered how some of them ever managed to close their jaws on a hook, and we marvelled at the mental attitude of the fishermen, which savoured more of childish indiscretion than adult sanity. Arraigned before a magistrate the five pleaded guilty and were fined \$24.75 each, a total of \$123.75.

Patrolling certain streams within his district a few days later, the same overseer came across two other anglers with about 40 small trout between them. They too, will be taken before a magistrate to explain their unsportsman-like conduct and we hope their sense of moral pride, if they have any, will be hurt just as much as their pocket book will be.

There have been a number of other cases of the same kind lately, probably not as glaring as those we have mentioned, but all serving to show that the habit of illegal taking is more pronounced in connection with trout fishing than any other kind of fish. Perhaps this is occasioned by the fact that the little fish are dainty delicacies and that they predominate in the smaller streams. We would not say that the number of violators is greater than heretofore, but we do know that the numbers of those caught are increasing, and this reflects the excellent work being done by the protective officers, with the co-operation of the public.

We believe that the good sportsman will appreciate the fact that the

destruction of small fish in such large numbers will seriously interfere with Departmental plans for providing a plentiful supply of legal size fish and that such illegal and unethical practices must be curbed. Fortunately, the percentage of anglers who have neither respect for the law nor the rules of sportsmanship is very small, in comparison with the thousands who find their greatest pleasure in fishing. In every walk of life we find a minority whose ethics are below par and who will upset the smooth running of the social and economic machinery, unless held in check by the proper authority, backed by the weight of public opinion. You can help us, either by moral suasion or direct action to protect your interests, and discourage fishing abuses.

As a youthful competitor in a recent essay competition put it, "The good (boy) sportsman who catches an under-sized fish and is tempted to keep it, slaps the old devil of temptation into the water, and throws the fish after him."

Pan Fish

We were discussing fishing with some friends, and in the course of conversation suggested that if the game fish they were seeking were not biting, a great deal of sport and some excellent food could be obtained by trying for "pan fish". "What do you mean by 'pan fish'?" interrogated one, "Aren't all fish pan fish"? Literally, yes, but in the jargon of the experienced fisherman, "pan fish" is the title given to most every variety of small fish not included in the category of game fish. There are many species in Ontario waters which might well be given more attention by fishermen, both in the interests of conservation and from the standpoint of sport. A few of these are rock bass, perch, blue sunfish, speckled bass, etc. A brief description of the more important of these would probably be of assistance to the beginner in determining the species. Reference: Nash's "Fishes of Ontario."

Rock Bass: In its general build the rock bass is somewhat stubby in appearance, with its girth rather large for its length, as compared with the small mouth, for example. For this reason it gives the impression of being "as broad as it is long." The eye and the mouth are both large, with the upper jaw extending back to a point perpendicular with the pupil. The lateral line, which extends from the head to the tail is quite definite and placed high on the body. It follows the contour of the back. The color is olive green with a shiny brassy tinge and marked with a variety of dark spots. In the adult fish there is a dark spot at the base of each scale which sometimes forms interrupted black horizontal stripes.

The rock bass does not grow very long, but its girth adds to its weight. As its name implies, it is found around large rocks or in the shade of rocky ledges, while, because of its penchant for shade, it is taken in large numbers around the cribwork of docks. It spawns in May or June and tends its eggs

with the same care as does the black bass. When taken from cold water the rock bass will provide an excellent meal.

The rock bass is a favorite with the small boy because it cares nothing for refinements in tackle and will take almost any kind of bait. If you want your boy to enjoy his fishing outings and kindle his enthusiasm for the sport, direct his energies toward rock bass fishing. This species is very prolific and a good string will usually reward his efforts. But even if you are an experienced angler, you will find lots of thrill in taking the rock bass on light tackle and employing the other refinements of the art.

Speckled or Calico Bass: The general physical characteristics of the calico bass are very much like those of the rock bass. Its body is compressed and it is about twice as long as it is deep, excluding head and tail. In color it is silvery olive with dark green markings gathered in irregular bunches covering the whole body.

The calico bass frequents the warmer ponds and sluggish streams where aquatic vegetation is usually rife and where insects and small fish are found in abundance. It spawns about the same time and in the same manner as the rock bass. Like the herring, the perch and certain other species, the calico bass congregates in schools, and when discovered, provides "never a dull moment." As a food fish its flesh is quite tasty and as a game little sporting fish, it is worthy of more attention than it receives.

Blue Sunfish: The blue sunfish is the largest of the sunfishes, frequently attaining a length of 12 inches or more and a weight of about a pound. It has not as wide a distribution as the other species already mentioned, but occurs abundantly in certain sections, such as Lakes Ontario and Erie and their tributary waters. The body of the blue sunfish is very deep, and because of this fact, and its elliptical shape, it appears to be almost round. The head is medium in size, the snout short and the mouth small. The lateral line is well defined and follows the curve of the back. The younger fish have variegated coloring and markings, but in the adult fish the general scheme is olive green on back, paler on sides, with the under surface coppery red and the cheeks bluish. The blue sunfish will adapt itself to almost any environment, as a consequence, it may be found in lake, pond or stream. "As a table fish" says Nash, "it is highly esteemed, and, in proportion to its size, possesses greater fighting qualities than any fresh-water fish we have." The angler would find a great deal of pleasant diversion and minor thrills in taking the blue sunfish on the light tackle recommended for rock bass.

Common Sunfish: In appearance the common sunfish, or pumpkin seed, is much like the others described, except that it seldom grows large and has a distinctive coloration. It is one of the most beautiful of fresh-water fishes, its rainbow hues of orange, green, yellow and blue being very striking. Because of its small size, it is particularly adapted to the sport of youth, and the boy who is once introduced to the pumpkin seed will never cease to rave about its beauty. As a game fish it perhaps has little or no

claim to fame, but even the old timer has a warm place in his heart for the sunfish, because it usually provided the incentive for those early boyish excursions to some mill pond or stream, with a pole, string, bent pin and the necessary bait to ensure its capture. Speaking of the sunfish makes us reminiscent. It recalls the barefoot days, and the "bobbing cork" and reminds us with what eager anticipation we watched it floating leisurely or drifting with the current. Every motion telegraphed a message; there was the preliminary nibble, reflected by a gentle bobbing of the cork, the "sunny" was investigating; then the cork started slowly away, only to halt while the little fellow paused to enjoy his meal; then zip—the cork suddenly disappeared and the thrill of battle was on. Yes, the pumpkin seed may not be a game fish, and its size impairs its desirability as a food fish, but it has so many sentimental associations that it must have a place in any scheme for conserving the more desirable species. Therefore, as a means of protecting the small bass and other game fish, it is advisable to introduce the boy to the pumpkin seed until his general knowledge warrants his graduation to more important species. The ease with which they may be caught will completely satisfy his eager impulses. The sunfish is very abundant in all the waters of Southern and Central Ontario.

Perch: The yellow perch is too well known to need more than passing reference. It is one of the most abundant of our fishes and is distributed generally in nearly all lakes and rivers of any size throughout the province. Taken in the spring or fall, or from cool waters, it is one of the finest of our food fishes. As a fighter it has very little to commend it, but it has the advantage of being easily caught and no particular tackle or experience is required to take it. The popularity of the perch has increased tremendously during recent years because it is about the first spring fish available to the angler after the ice goes out, and is found in such numbers that, when word is passed that "the perch are in", one can be assured of good catches. In addition, it is generally admitted that the flavor of the perch is such as to satisfy the most epicurean taste.

Value: We have two particular reasons for emphasizing the value of the so-called "pan fish". The first is that they provide plenty of sport and are available when other fish cannot legally be taken or refuse to strike. The expert will probably sneer at the idea of dissipating his angling energies on such puny adversaries, but a host of boys, novices and still-fishermen will find plenty to rave about when the little fellows are biting, while the bait and fly casters will be surprised at the skill required to take some of the pan fish with refinements of tackle suitable to their size.

The second reason gets us back to the subject of conservation. Obviously when the massed attacks of the anglers are concentrated on the game fish front, the casualties suffered by certain species are very heavy, while the scrappy little camp followers remain in the background comparatively free from molestation and living luxuriously off nature's commis-

sariat. As the latter increase in numbers they consume more food, food which is essential for the growth and development of what we term the more desirable species—the fighters who occupy the front line trenches. Obviously there is a limit to the numbers that can find food in any one area, therefore, if there is a preponderance of pan fish the game fish will probably suffer once more in the struggle for existence. The angler can, therefore, assist materially in the conservation of the game fish by turning his attention more frequently to the little fellows who, while they do not rate so high in the estimation of the fishermen, are nevertheless capable of affording all the thrills of the sport.

REPRODUCED FROM FISHING ANNUAL—WITH ACKNOWLEDGMENTS



Sunfish

*Blue Gill or Blue Sunfish
Perch*

Rock Bass

Speckled or Calico Bass

Pickerel

Lead Poisoning in Ducks

Recently, the Department received information by mail that some kind of disease was affecting the ducks in the vicinity of Frenchman's Bay, as a number of blue bills were found dead and as many more were evidently in the last stages of sickness. An officer was sent out to investigate the situation and found a number of dead birds. He examined the crops of two of them and discovered some shot in them. In order that a proper investigation might be made, one of the birds which had just died was turned over to the Research Laboratory for examination. This disclosed some twenty-nine pellets in the gizzard and intestines, while a blood test confirmed the diagnosis that death was due to lead poisoning.

It is not generally known that quite frequently wild ducks escape the barrage of gun fire set up by hunters, only to fall prey to lead poisoning through eating the shot which failed to find its target, and became scattered all over the marsh. Waterfowl losses from lead poisoning are common and many ducks have died through eating as few as four or five pellets.

"It isn't difficult," says Dr. J. E. Shillinger, "to understand how a duck may obtain a fatal dose of lead when one recalls how thoroughly these birds work over attractive food areas. A flock of 200 to 300 ducks may find sufficient food in certain marshy areas to hold their attention for several successive weeks. They go over every square foot of this area, and any food overlooked by one bird is likely to be picked up by another. It is during this search for food that they pick up the lead shot. Ordinarily, only a few lead pellets are found in the gizzard of waterfowl, but on some occasions the gizzard has been found filled with shot. One bird had 288 shots of various sizes in its gizzard. The abrasive action of grit under the pressure of the powerful gizzard muscles grinds the shot away and much of the lead found in waterfowl is in the form of irregularly shaped fragments."

It is the absorption of the lead as it passes through the intestines in a ground up condition which gives rise to certain characteristic symptoms, one of the first of which is that the affected birds lose their power of flight. This is followed by a general collapse, when both swimming and walking become impossible, and the birds are almost helpless. In this condition it is obvious that even should they escape the ravages of the poison, there is a very great danger of them falling victims to the elements or to natural predators.

While the disease of lead poisoning in waterfowl has been recognized since 1900, it was 1919 before a complete description of the condition was made and issued by the Bureau of Biological Survey. At that time the Bureau felt a little pessimistic as to the effectiveness of any prevention measures and literally abandoned hope. "All that can be done", it said, "is to call attention to the prevalence of lead poisoning and to describe the cause and symptoms, so that persons finding affected birds may understand."

However, according to later information, the outlook for preventing lead poisoning has become much brighter. Scientists have been carrying on a great deal of experimental work in an attempt to develop an alloy that would make effective shot, and at the same time have component parts that would quickly disintegrate. Such an alloy has been found by mixing lead and magnesium. Experiments have shown that this new alloy will break up rapidly in water, or if eaten by waterfowl will quickly become ground up in the gizzard and pass through the intestines before the bird has had time to absorb a fatal dose. Ordinary lead shot when eaten by waterfowl becomes lodged in the gizzard and is ground up very slowly. As these tiny particles pass through the intestines they are absorbed by the duck's body and poison is set up.

A mallard duck was used in feeding tests and by means of frequent X-ray photographs scientists experimenting with the new alloy were able to observe the rapid disintegration of the alloy in the gizzard and the passing of the lead powder through the intestine. Subsequent to the experiment and observations the duck remained well and at no time showed any signs of lead poisoning.

The result of the experiments seem to show that lead poisoning in ducks could be largely prevented by the use of an alloy instead of lead shot. Whether or not this will be economically possible remains to be seen. In the meantime ducks are being killed by sportsmen whose scatter loads when fired from the blinds, missed them completely; so the poor duck gets it, hit or miss!

The Pike

"To everything there is a season, and a time to every purpose under the heaven," says the book of Ecclesiastes. In the matter of time this is the general fishing season, but this period is subdivided into separate seasons of varying lengths for the different species. The pike season has just opened as we write, and so it seems appropriate to devote some space to this important game fish.

The Common Pike, scientifically known as *Lucius lucius*—is widely distributed throughout the Province in most waters where weeds form part of the aquatic conditions. Like the yellow pickerel it is known by a number of different names which but serve to confuse its identity. In Western Canada it is a "Jackfish", in the Eastern United States, a "Pickerel", while in Ontario it is called "Northern Pike" or simply "Pike". However, by whatever name it is known the pike is a worthy foe and a "hefty" fighter. It has a torpedo-shaped body, somewhat elongated, but well proportioned, with a long head and tapered snout. The mouth is quite large and bristles with strong, ferocious-looking teeth, giving it tremendous holding power. There is but one dorsal or back fin which is situated near the tail and opposite the anal fin which is on the under surface. Because of the location of the dorsal fin the suggestion of length is accentuated. The cheeks of the

pike are entirely covered with scales as is also the upper part of the opercle or gill covering, while the lower half is bare. The general background color is greenish gray but this is pierced with many white or yellowish, bean-shaped spots fashioned in more or less longitudinal lines.

Pike spawn in April and early May in southern and northern Ontario waters respectively. A comparatively small pike may contain 100,000 eggs while large fish have been known to have as many as 500,000 eggs. The spawning takes place in shallow water in weedy or marshy areas. The period of incubation is from seven to twelve days, depending upon the temperature of the water.

The pike grows rapidly and is a voracious eater. It has been known to reach a length of four feet, and to keep pace with its development it is estimated that it will consume its own weight in food in a single day. The food of the pike consists largely of other fish such as herring, perch, minnows and crayfish. Like most of the game fish, it is cannibalistic and will devour its smaller and weaker brethren. These are frequently comparatively large fish, but its digestive capacity seems equal to all demands.

As a sporting fish the pike compares favorably with the muskie. Its size, speed and fighting qualities will provide the angler with plenty of thrills. It may be taken with almost any kind of tackle or lure, making it available to the inexperienced as well as the expert. However, to really enjoy a battle with this or any other fighting game fish, the odds should not be too one-sided and the tackle used should be such as will call forth all the skill of the angler rather than his physical prowess.

If taken in cold water the pike is an excellent food fish. The flesh is white, firm, flaky and of good flavor. In many sections of the Province it is considered one of the best of the game and food fishes.

The Boy Speaks

The following gems of humor and philosophy are gleaned from the essays written in the competition sponsored by the Ontario Federation of Anglers and the Globe and Mail:

"The fish are our summer visitors";

"Do not put dirt and sewage into the water, because the visitor does not like this idea."

"It is very necessary that we keep our lakes and streams clear of anything that may be harmless".

"You nor I know not what fish must stand".

"Fishes must find their own food while we have ours just handed to us".

"You cannot see a minnow only with a microscope because they are so very small".

"The Black Bass has a stout stomach and silver around his head".

"Mink and Racoon take the occasional fish from the lakes and streams, but they do not take more than their share, as the poacher does".

"The Lunge is a big fish; when it is small it weighs forty pounds".

"The Bass family is a very remarkable family; the father Bass does as much work as the mother".

"People who do not know how to care for fish should get the Boy Scouts to teach them".

"People ought not to spear fish because this is not good for them".

"Children should not take too many minerals out of the lakes and sell them for bait."

"Even though you do not catch fish, you can enjoy pulling your line in and out to see what you got".

"We need fish in our waters for tourists to catch, and if they think of Conservation they will not catch too many. They also make the lakes beautiful to look at".

"Fish is a delicious food to anyone who likes fish".

"Pleasure, beauty and love are provided by fish".

"You should not catch Lunge more than three feet small".

"Poachers should not be allowed to fish at night."

"Obey the law, throw those that are too large back in, even if only one inch larger, throw it in".

"If you are a good sportsman take notice and do not do the foul tricks of some people".

"I believe that in a short time most of the fish of Canada will be extinct unless something is not done immediately".

"How would you like to be a fish? Well, I wouldn't".

"If you catch the father Bass in spawning time you leave his brood to be devoured by other robbers".

"The father bass—must act as nursemaid to his helpful little ones".

"The fish may be hurt with the spier, and may not mind it at all, but sometimes it is the cause of its death".

"Soon we see a foaming brink. In it are lovely big Ontario Fish".

"Floods should try to be made less severe".

"If the guides of tourists would tell nothing they would help in the conservation of fish".

"People should not treat fish unkindly. If so, why?"

"Those safe places will soon disappear like Buffalos".

"The eggs of the maskinonge should not be laid near the damns in lakes".

"When you are the tiny fish that have just hatched from eggs, you would wonder that they could be human and grow up".

"The shark and many birds are enemies of fish".

"If the Black Bass is left till it is seven (years old) it has had the pleasure of raising several families".

"People should not put any kind of fish into a river or lake that will kill other fish".

"The little fish are very useless when they are born".



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

June and July
1938

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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EDITORIAL

"God has lent us the earth for our life.

It is a great entail. It belongs as much
to those who are to come after us as to us,
and we have no right, by anything we do
or neglect, to involve them in any unnecessary
penalties, or to deprive them of the benefit
which is in our power to bequeath." —Ruskin.

THE wild life of the Province is a part of the scheme of nature which we inherited when our forbears took possession of this wonderful land which we call Canada. It is a part of the "great entail" of which Ruskin speaks, and must, of necessity, be considered as a trust, because the perpetuation of these resources will have to be assured or the plan of Creation will be thwarted and man become a creature of his own folly. It is true that man was given "dominion" over the creatures, but this power carries with it responsibilities which cannot be lightly dismissed. For this reason, therefore, it is well to assume that our rights in wild life are subject to the general rules governing the administration of a trust. The elementary principles of trust management are, sound judgment, proper control and wise use, and it is quite obvious that if our "dominion" over wild life is exercised on the same basic standards, the results will be quite satisfactory.

However, the successful administration of this trust is dependant upon so many complex problems involving natural laws, economic development and social progress that perpetuation becomes more and more a matter of individual responsibility. The Department of Game and Fisheries has adapted its programme of conservation to keep pace with modern conditions and meet the ever-increasing demands made upon our wild life resources. In addition, provision has been made for proper control and wise use through regulations based on scientific knowledge and practical experience. The observance of the letter and the spirit of these regulations is an essential part of good sportsmanship, and represents a vital link in the chain of progressive administration which has been forged in the interest of present and future generations.

The pleasing feature of this trust, in which each of us has a responsibility, is that through co-operation we may enjoy all its advantages and still pass it on to those who come after, without depriving them of any benefits which are rightfully theirs.

Casting

We have frequently remarked that fishing is one of the finest recreational sports available to the people of the Province. Apart from the moral and character building influence of the environment in which the angler finds himself while in pursuit of his sport, and the fishing beatitudes which apply to conserve the fish and maintain the ethics of sportsmanship; the refinements of the art require a degree of skill which is only acquired through knowledge and the patient effort which the practical application of that knowledge demands. The measure of one's pleasure in the sport depends upon one's experience. The barefoot boy with a crude pole and a can of worms is just as universally happy in his fishing as is the experienced angler who has become possessed of expensive equipment and glories in his skill with a fly or a bait casting rod. The still fisherman with worm dangling and cork bobbing, who patiently waits for the fish to find his bait, appears to be just as contented as the bait caster who shoots his plug to the fish, or the fly caster who seeks to attract his victim by attempting to improve upon nature. The various methods merely represent a progressive development of skill in the art, and the pleasure and satisfaction which always accompanies skill in any endeavour. It is only as we acquire experience, and our enthusiasm develops, that we begin to realize the latent possibilities of modern angling equipment.

All this is by way of introducing the fact that we spent a very pleasant afternoon last Saturday watching the Toronto Anglers demonstrate their skill with fly-rods and bait-casting equipment, in open competition for some valuable prizes. One of the first things which impressed us was the care with which these enthusiasts handled their equipment. It almost seemed as if there was a bond of affection established between the owner and his rod and reel. This care for the tools of one's trade is partly responsible for success in any endeavour, for the careful workman is usually a skilled mechanic. The fly casters occupied the stage in the first part of the programme. A large canvas lying on the ground had a round "bull's eye" in the centre of it, while radiating therefrom were white painted circles covering the balance of the canvas. This provided the target and represented the weed bed, the sunken log and the swirling eddy. These circles were numbered to show the degree of accuracy attained by the competitor. The method of casting a fly is too well known to require comment, even if one lacks the necessary experience to accomplish it successfully, but one may be permitted to marvel at the control which it is possible to maintain over a line extended to fifty or more feet and which entails whipping the line through the air on a backward flip to straighten it out, and shooting it to the required destination on the forward swing. With perfect motion, these anglers, standing at a pre-arranged distance from the target, whipped the

line backward and then when it had straightened out, snapped it forward again, repeating the action several times until the line had sufficient momentum to reach its objective. Then the final flip and the fly would drop with amazing accuracy either on the bull's eye or within a reasonable distance therefrom.

Accuracy tests having been completed, the fly casters competed in tests for distance. This is purely competitive action, for the attempt to acquire distance beyond the point of accuracy apparently prevents proper control. Nevertheless, it was extremely interesting to see a skilled performer straighten out fifty to seventy feet or more of line on a backward flip, and then shoot it forward in a graceful arc with sufficient momentum to cause the fly to drop over 100 feet away. Watching these skilled performers in action, one could readily realize why fly fishing is considered by its exponents as the ultimate accomplishment in the art of fishing.

The plug-casting took the same general form, except that, as everyone knows, the operation is different. In fly-casting, the line is uncoiled from the reel before the cast is made, while in plug-casting, the whip of the wrist and forward snap of the rod impel the lure forward, at the same time unwinding the line from the reel. It was noticeable that there were many more plug casters than fly casters and that their ages varied from youths in their teens to men of mature age. At various distances, up to eighty feet from the target, these men took their turn in rotation and shot their lures at an imaginary weed bed, represented by the bull's eye on the target, beside which an imaginary pike or fighting muskie was waiting to provide action. The resultant casts were never far from the desired spot except when a line snarled on the reel, or the caster forgot to take off the brake.

It occurred to us while watching this tournament that more of our associations might, with profit to their members, embody in their programme of activities instruction in the art of casting. Of course, we realize that where suitable accommodation for the purpose cannot be had indoors, the instruction would have to be given outdoors when weather conditions would permit. However, to those who are really interested, this should present no particular stumbling block, because, after proper direction, the dexterity one acquires is a matter of practice and this can frequently be done in one's own back yard. We have a feeling, too, that when the fisherman acquires skill in the art, he will be more interested in fishing than in catching fish, and from the conservation standpoint, this is worth while.

Lest our ideas on the matter be misunderstood, we would point out that it matters little what equipment the angler uses (provided it is legal) on his fishing expeditions; —the expensive rod and the crude pole are but means to an end,—what is important is his mental attitude towards the sport, including his concern for the regulations and the conservation of the resources which make it possible. At the same time, it is pertinent to add that to progressively develop one's skill in any art is always worth while.

The Fixed Spool Reel

Shortly after writing the above, a clipping from a Scottish newspaper reached our desk. As it has to do with further refinements in the art, the following extract on bait fishing will probably be of interest to anglers:—

“It is not exaggeration to say that angling for trout and salmon has been revolutionized during the past decade. It is strange to think that methods of angling should have persisted for several centuries, almost without change, except in refinements of tackle, and that suddenly, changes should come ‘with a rush’.

“It is true that in the remote parts of the country trout fishers still practise the methods taught by Charles Cotton and incorporated in the ‘Compleat Angler’. They still attach to their cast a number of artificial flies, which they throw across the river so that they may be swept down and round with the current. Dry fly fishing, in which a single artificial fly is cast upstream, and, having been oiled, floats down on the surface, is now very generally practised—but dry fishing is, by this time, of venerable age.

“It is in bait fishing for trout that the great change has taken place, thanks to the popularization of the fixed spool reel. Prior to the war, minnow fishing was largely confined to periods when the river was high. The ordinary fly rod, reel, and line were used. The angler cast his minnow across the river as far as he could, and worked it through the rough streams. But now the minnow is used when the river is dead low and clear, and, instead of fishing in the rough streams, the tails of pools and water only a few inches deep often provide the best of sport. The thread line, which is about the thickness of ordinary sewing silk, enables this kind of water to be fished with ease. The angler, armed with a short, slender rod and one of the various fixed spool reels, can cast his small minnow from 20 to 30 yards, and this enables him to keep out of the sight of the fish. The fixed spool reel is now to be seen everywhere on loch and river, very often to the disgust of fly fishers, who declare that it is ruining trout fishing.

“Worm fishing, also, has been simplified by the use of the thread line. Before the war, clear water worm fishing was the highest test of angling skill, largely because of the difficulty of getting the worm to stay on the hook when the cast was made. It took a long time for the learner to acquire the curious lobbing action necessary for upstream worm fishing; but now he can master worm fishing in half an hour. Float fishing, too, has been simplified. In this way methods of angling have been greatly widened, even for the ‘duffer’, and the opportunities for sport increased.”

NOTE:—

The fixed spool reel, according to our information, is a reel with a non-rotating line-drum which has its axis fixed in line with the direction in which the cast is to be made. During the cast the line slips off over the elongated screw-thread. It is claimed there is no resistance to overcome, such as is the

case in the rotating spool reel. Apparently, when the bait hits the water the coils cease to slip off the drum, and the drum being stationary, overrun, is eliminated. Provision is made for rewinding the line on the drum by means of a rotating guide. Incorporated in the drum is an apparatus which controls the tension and prevents breakage of the line when playing a heavy fish.—Ed.

A Word to the Inexperienced

There are two distinct classes of fishermen: the experienced and the inexperienced. The former is an enthusiast who not only knows the game but has also made a study of the habits of the different species and, combining that knowledge with experience, knows how to outwit them. The inexperienced fisherman is usually either a beginner or a casual angler, who fishes when the opportunity presents itself, but makes no effort to acquire proficiency in the art. Now there are certain fish that the veriest tyro can catch without difficulty, while to be successful in taking others, one must know the habits of the fish and adapt one's technique to the existing conditions. This is particularly true of speckled trout fishing and is quite noticeable in the catches made by novices and experienced fishermen on the same stream. For the benefit of those whose experience is limited, we quote some words of counsel from the California Fish and Game Bulletin:—

"All too many fishermen walk up to a trout pool with no more care than they would use in going to the corner drug store, and wonder why they never even see a fish. Move as carefully as though you were stalking game and you will have much better luck.

"If the water surface is glassy smooth, stay back of a bush, rock, or tree. If you can't do that, stay in dense shade and move slowly. If there is no shade, creep up on hands and knees, or at least contrive to have something besides sky for a background. If there is no cover of any sort, stand well back from the stream. NEVER LET YOUR SHADOW FALL UPON THE POOL. If you are so dressed that you harmonize with your background, you can often stand in full view of well educated trout without frightening them—but you will have to move very slowly to do it.

"If the water surface is ruffled, you do not need to be nearly so particular, and if the water is white with bubbles or is muddy, about all you have to do is to avoid casting a shadow on the place where you are fishing.

"Remember that trout face into the current. A trout is less likely to notice you when you are behind him.

"Often, in spite of every care you can take, you will frighten the fish. When this happens, it is usually best to move on, but sometimes the frightened trout are worth waiting for. Get yourself into a comfortable position and wait quietly. Usually the life of the pool will return to normal within five to fifteen minutes and you can get results.

"Talk, shout or sing all you please, but WALK quietly. If the stream is quiet and unbroken, take every precaution to step lightly, and remember that the ground carries sounds for a long distance. A stream with undercut banks is the very hardest to approach. In such a place even your best efforts may not be enough. In places where the water is tumbling noisily along, you do not need to be nearly so careful."

Planting Speckled Trout

That it is becoming more and more worth while for the angler to know the secret of success in trout fishing is apparent when one considers the effort being made by the Department to ensure a generous supply of these sporting fish in our streams. For several months there has been intense activity throughout the hatchery service in rushing to completion the year's programme of speckled trout distribution. It will be recalled that during 1937 approximately $1\frac{1}{4}$ million of yearling and adult trout were planted in suitable waters. This year the objective is two million, and it is likely to be attained, for at the end of June approximately 1,400,000 had already been placed and the work of planting will continue for several weeks yet.

The distribution of speckled trout commenced about the middle of April, and is carried on mostly by trucks equipped with tanks. Each truck usually carries six tanks, and the water is kept at proper temperature by means of ice. It is interesting to note that at the beginning of operations a six-tank truck will carry about 3,000 trout to a load. By the beginning of June, however, the carrying capacity is only about 2,400, while by the end of June it has shrunk to between 1,500 and 1,800. This is, of course, accounted for by the growth of the fish during the intervening periods. This growth is somewhat slow during the cold weather but is stimulated when nature becomes active again. At this time the fish are fed heavier, and there is considerably more natural food available, so that development is rapid.

Frequently it is necessary for the trucks to carry fish 200 miles or more. On some of these longer trips as much as 800 to 1,000 pounds of ice is used to keep the temperature of the water uniform. Each truck driver has an assistant who is armed with a thermometer with which frequent tests of the water are made to see that conditions are right. The motion of the truck helps to keep the water aerated and the fish lively. The men on distribution work are experienced men familiar with the best methods of planting. It is seldom that they fail to make delivery, even in the face of the many difficulties incidental to transportation off the beaten track.

Arrived at their destination, be it early or late, the work of planting must immediately be undertaken before the driver is free from his responsibility for that particular load. To delay is to court trouble. Sometimes the load can be driven close to the stream; at other times, it is necessary to carry the fish for a considerable distance before disposing of them. Much valuable

assistance is given in the actual placing of the fish by sportsmen and sportsmen's organizations.

From the brief information herein given, it will be apparent that the distribution of two million yearling speckled trout in the waters of the Province is no mean task. It is the part of the sportsman to see that illegal practices do not nullify the good work which is being done on his behalf.

Concerning the Skunk

The problem of wild life management is fraught with many difficulties because of a lack of definite knowledge as to the inter-relationship which exists between the species. The man who forms his conclusions from individual experiences or superficial study is just as apt to be wrong as right. We are reminded of this fact by the statement of a sportsman the other day, in the course of a conversation we had with him, that skunks had destroyed the bird life, particularly the pheasants in the area we were discussing. The obvious solution to the problem was to go out and destroy the skunks. It should be pointed out that the explanation for the scarcity, if such there were, was mostly conjecture, based on the reputation, earned or otherwise, with which the skunk has been saddled. It is because too much of our reasoning is frequently based on imperfect knowledge resulting from isolated experiences, that the problem of determining the best methods of readjusting natural conditions to meet our special requirements is complex. We hold no brief for the skunk. Like most people, who have no interest in its pelt, we always try to give this backfiring, malodorous little pole cat the right of way. However, in the course of our reading, we came across an interesting article in the last issue of the Pennsylvania Game News, which affords new light on the question of "the food taken by the Eastern Skunk, with particular reference to birds and bird eggs." It is by Prof. H. M. Wight of the University of Michigan, and sums up the results of an investigation conducted in the State to ascertain the food habits of the skunk.

Some eighty-four dens were located and the activities of the occupants carefully observed, some for a period of two years. The feces of the animals were frequently collected, segregated on the basis of time and locality and carefully analyzed. "From the data obtained by consistent field observations and an analysis of the material obtained from, or in the vicinity of individual dens", says the writer, "information has been derived which throws light on the meaning of food habits research in general, and particularly on the relations of skunks to birds. To further their investigation of the food habits of individual skunks, observations on captive skunks were frequently made, and during the last month of the investigation numerous dummy nests were placed within the feeding range of the individual skunks already studied." Continuing, the writer states: "In the volumetric analysis, bird material was found poorly distributed as to frequency of occurrence in indi-

vidual samples and individual dens. In fact, it was found in only 37 of the 302 samples examined and was recovered at only 7 of 78 dens from which samples were collected. Seventy-seven per cent. of the total bird material by frequency and 73 per cent. by volume came from one den. This consisted largely of feathers of domestic hens."

A table showing the frequency and volume of the bird material obtained from the seven dens referred to is provided and the following comments, having a bearing on the general results, recorded: "The above table indicates that the presence of bird material in the feces of skunks is closely related to various factors in the environment, as well as to the individual behavior of the skunk. For instance, on several occasions dead hens were found at the entrance of the den located at 11-D-15, (the den from which the largest volume was obtained) situated close to a barnyard where hens were occasionally thrown. The inhabitants of this den fed upon mice during the early spring, but turned to a poultry diet during May. The den was located in a rail fence which had grown up to a hedge of various trees and shrubs, including cherries, the source of the food taken during July. The hedgerow was the crowing site of a cock pheasant, and a flock of pheasants used the hedge as an 'escape' throughout the summer. Evidence indicated that a young pheasant had been eaten by this group of skunks. Numerous small birds used the hedge as a roosting and feeding site and evidence of the remains of song birds was also found."

The conditions at each of the 7 dens are described and the results summarized thus: "The findings recorded here indicated that the skunks inhabiting the 78 dens investigated, seldom, if ever, killed birds. The greater portion of the bird remains found in the material analyzed consisted of poultry, and although it is well known that skunks sometimes kill chickens, no evidence was derived from this work to indicate that young chickens had been taken by the inhabitants of these dens."

"The 302 samples were especially analyzed to obtain the minutest pieces of eggshells which might be readily overlooked in the usual stomach analysis methods. The technique involved washing the samples through soil sieves, followed by an examination of the residue contained in pans, with special background and lighting conditions to facilitate the removal of each tiny particle of eggshell. As each sample was prepared separately, it was possible to identify them with the den at which they were collected. Eggshells were found present in 17.7 per cent. of the samples."

"As has already been discussed, the samples were gathered from the region of 78 individual dens, and the distribution of eggshells on the basis of dens coincided closely with the findings of bird material for 75.4 per cent.

of the occurrence of eggshells in the feces samples was from the two dens that produced the bulk of bird material. The remaining 24.6 per cent. of the total occurrence of eggshells was distributed among nine dens. Thus, eggshells occurred in the samples of but 11, or 14 per cent. of the 78 dens studied.

"Fifty samples were examined under a binocular microscope for the purpose of identifying the shells. The identification of eggshells after they have passed through the alimentary tract of a mammal is difficult, but on the basis of colour, the curvature and thickness of the shell, and the characteristic markings, it was possible to identify at least a part of the shells. The results were as follows: Hens—30; small birds—9; unknown—7; quail—2; pheasant—1; and crows—1.

"The eggs of ground nesting, or birds nesting in low shrubs readily accessible to skunks, have frequently been observed to hatch successfully. One of the first skunk dens, located on the Northville area, was close to the nest of a vesper sparrow which hatched successfully. On various occasions a family of skunks were observed tearing up cow dung for the insects, in a pasture corner, while they repeatedly approached to within a few feet of a sparrow incubating her clutch.

"Observations of hundreds of skunks, both in captivity and in the wild, reveal that they do not possess the same power of locating individual objects so often demonstrated by dogs. Skunks actually appear stupid and apparently are animals of habit, seeking their food beneath objects, tearing up dung, and peeking into holes. That their sense of hearing is used in searching for food is readily demonstrated by young skunks that seem unable to find dead May beetles placed within their box, but locate live beetles instantly by the sound of their wings. It is my impression that a broody pheasant hen would drive a skunk away from the nest, for it has been observed that a domestic hen readily becomes the aggressor in the presence of a skunk. Even a comparatively small bird might have the same effect. At one time a skunk was observed walking directly toward a cock pheasant resting beneath a tree. When but a few feet from the pheasant, the skunk saw the bird, quickly backed away, and describing a wide semi-circle, continued on its way.

"There is much evidence to indicate that the skunk is not a natural egg-eating animal and that it must learn the habit through experience. This is true of most captive skunks, and the data that we have presented here further substantiates this belief. On one occasion a large male skunk, trapped beneath a henhouse, was placed in a pen containing a broody hen. The skunk used a box, on which the hen roosted at night, for a den. Upon resuming its laying, the hen regularly used the same box in which to deposit its eggs, and the skunk at no time ate the eggs left by the hen, although they were easily accessible.

"It is evident from the work at Northville that the skunk may or may not be a destroyer of eggs, poultry and birds. There are differences in the individual characteristics of skunks just as there are differences among men. It has been observed that an irritable and vicious skunk kept in captivity will produce young that are actually 'chips off the old block!' It is possible that an animal that is a killer may produce offspring with tendencies toward this same characteristic; either through inheritance or experience, and possibly both. Such skunks should be exterminated, but it is no more logical to kill every skunk because one kills chickens or eats eggs, than it is to butcher an entire herd of dairy cattle because one cow becomes a vicious kicker!"

The Professor has given us much food for thought. Different locations, and environmental conditions undoubtedly play a large part in the depredations of the skunk. Granted that this picturesque little animal frequently finds the domesticity of the barnyard and the accessibility of the hencoop to his liking, and assuming that he occasionally dines on pheasant eggs, or the young of the species, yet there does not appear to be any evidence which would justify the bald statement that the skunk is responsible for the disappearance of the pheasant from any particular area. True, he may be a contributing factor, and every factor that conduces to loss must be controlled. In apportioning blame, however, let us not be too dogmatic in our assertions or too hasty in jumping at conclusions. Things are not always what they seem, and in the case of the skunk, his "scent" may be worse than his bite!

Illustrating a Point

Speaking of the loss of game birds through natural and unnatural causes, reminds us of the following incident told to one of our Overseers by a farmer living near Toronto. He was cutting hay, one day, when part of his machine struck a pheasant's nest, injuring the bird and breaking half of the eggs. Stopping to investigate, the farmer gathered up the remainder of the eggs, seven in number, and carried them to the end of the field where he placed them carefully on some hay, intending to look after them when time permitted. Shortly afterwards he noticed a crow flying away from the spot with something in its beak. His curiosity aroused, he went to check up, and was amazed to find that all the eggs were gone; the crows had found them!

This incident illustrates the point we have tried to make in the foregoing article on the skunk. In this case, two additional factors, each having a bearing on pheasant disappearance, are introduced, viz.: man and crows. The harm done by the former is quite often unintentional, while the depredations of the latter are governed by instinct.

We do not pretend that this is the complete story of pheasant loss in any area, but it is sufficient for our purpose, which is merely to demonstrate

that the problem of the development of any one species cannot be solved by the mere extermination of an enemy species. In other words, we must consider all of the factors involved, and, with a proper understanding of the problem, endeavour to apply the remedy.

The Young of the Bass Family

The other day we had the opportunity of spending a few hours on a nearby creek, famous for its black bass. It was our intention to take some pictures of different stages in the hatching process with due regard to the fidelity of the male bass. However, two factors worked against us. Owing to recent heavy rains, the water was somewhat discoloured, making photography impossible. We also found the spawning season well advanced, most of the bass having left their nests, although it was only the second week in June. Where the nests had been, hundreds of tiny little bass were laboriously weaving their way back and forward within the limited area that was home to them. In almost every case the parent bass was discovered resting lazily within a few feet from the nest, and apparently still showing some interest in his family.

The little fish were of different ages, a fact which was easily discernible. In some cases they appeared as a black mass, still lying on the bottom, within the confines of the nest, and unable to rise. These were but recent arrivals and were being nourished by nature while developing the necessary strength to take care of themselves. Attached to the little bass when born is a small yolk sac which prevents it from immediately starting out for itself and upon which it feeds while lying more or less helpless in the crevices between stones. As the supply of food in the sac grows less, the tiny fish grow larger, and when the yolk has disappeared, they rise from the bottom and after a period of probation, during which they seldom move far from the nest, they are ready to explore a strange and sometimes cruel world. Many of the family groups were still in this formative stage, unable or unwilling to venture beyond the limits of the nest. Here they milled around, gaining strength and courage for the great adventure.

Other groups, it was obvious, were breaking up and bidding farewell to the home environment, but their departure appeared to be very gradual. Instinct seemed to tell them that things were not what they seemed; that in "the green pastures and wide open spaces" which loomed so invitingly before them, an unknown danger lurked. A curious incident was observed, which is worth recording. A few feet from a nest the parent bass was lurking, still keeping tab on its brood. Several little fellows, more venturesome than the others, had become isolated from the main group. Suddenly the stern and voracious father swooped down on them, and the tiny offspring darted for protection under a convenient stone. This savage attack may have been an attempt by the parent bass to satisfy his appetite, for the bass

is cannibalistic; on the other hand, it may have been intended as a warning to the inexperienced fry that they should not be too venturesome, and must be constantly alert to the first sign of danger.

The progress and development of the various family groups could readily be followed. The newly born were still lying on the nests; those a few days older moved about the nest like a mass of tiny black beetles; the earliest arrivals were rapidly scattering and making their way singly or in small groups, along the shallow water close to the shore.

While it is generally supposed that few bass smaller than ten inches will successfully rear young, we saw one parent fish which did not appear to be more than eight inches long, guarding a nest with all the tenacity of a much larger fish.

Another thing we noticed was that within two or three days after the male bass had left the nest and ceased fanning the water, the polished surface of the stones again became covered with moss and slime.

The life history of the bass is an extremely interesting study. It embraces the solicitude always associated with domestic felicity; yet its marital affairs lack balance, being more or less one-sided. The female bass assumes few of the family responsibilities except the natural function of depositing her eggs in a nest specially prepared by the male. The male bass, on the other hand, is a mixture of parental affection and animal savagery. During the incubating period he guards his nest with a devotion worthy the best traditions of parenthood, and yet when the young are born and are able to move around, he deserts them without scruple. After this, if they cross his path when the pangs of hunger are calling for appeasement, he is liable to gobble up the whole family. This cannibalistic instinct is a characteristic of fish life in general and is part of nature's law of perpetuation. In the case of the bass and other members of the sunfish family, it presents a curious situation when one considers the tenacity with which the parent bass protects his nest and prospective family during the hatching period.

We found our day on the stream a fascinating experience.

The Lake Trout

(By PROFESSOR DYMOND.)

The fish to be discussed in this article, under the name of Lake Trout, may be known to many of the readers by numerous other names. In the smaller inland lakes it is often called grey trout; in the Great Lakes, salmon trout. Other names are mackinaw trout and namaycush—the latter the Indian name.

The lake trout is not among the finest of our game fish, but under some circumstances, it provides almost the only fishing available, and adds one more to the list of game species of which we cannot possibly have too many.

In the Great Lakes the lake trout reach a large size, specimens of thirty, forty, and even fifty pounds being reported, but in the smaller lakes it grows to a much smaller size. In general, the size to which fish grow is proportional to the size of the body of water in which they live. In large lakes whitefish, lake trout and several other species grow to many times the size they reach in small lakes. The same, as you know, is true of the speckled trout. In small brooks it scarcely reaches the legal limit of seven inches, but in large rivers, fish of seven, eight, and even nine pounds are taken.

The lake trout not only differ widely in size from one lake to another, but also in colour, shape and markings. In big lakes they tend to be light greenish; in small lakes they are light grey, sometimes almost black. At spawning time in the fall in some places they become quite red on the lower sides and are then often called red trout, but such colour names are confusing, since the same species may be green, grey, black or partly red at different times and in different places. The name red trout, as applied to lake trout, is especially bad, since there are other kinds of trout which become red at spawning time.

Now, I suppose you are wondering how you are to know the fish discussed in this article, in view of the fact that it is so variable in its size, colour and markings. First, let me say that the lake trout is a close relative of the speckled trout. The difference between them is as follows: The lake trout usually lives in lakes and is very rarely found in streams. The speckled trout are usually found in streams and only occasionally in lakes; the lake trout has light coloured spots on its sides, but no red spots; the speckled trout has beautiful vermilion spots, each surrounded by a blue border; the lake trout's back lacks the marbled pattern seen on the back of the speckled trout. I refer to the irregular dark and light markings, sometimes called wormtracks, or vermiculations, on the speckled trout's back. Another distinction, and perhaps one of the most useful, is that the lake trout's tail is deeply forked, whereas the speckled trout's tail is almost square at the end. Young speckled trout, and some of the large ones, have a slight tendency toward a fork in their tails, but nothing approaching the definite fork of the lake trout.

In Ontario, the lake trout spawns in late October and early November. In the Great Lakes there is no closed season, but in the waters of the Province lying north and west of and including the French and Mattawa Rivers, and Lake Nipissing, the closed season is from October 5th to October 31st inclusive. In waters south of this boundary the lake trout is protected from October 15th to November 15th inclusive. It also receives further protection in that no angler may take more than five in one day.

The lake trout is widely distributed throughout the Great Lakes, Georgian Bay and most of our deep, cold-water Northern lakes. This fish

provides many summer residents or vacationists with a form of fishing best suited to their choice and surroundings. I refer to trolling with a copper line, with spoon or minnow bait. During the summer the lake trout haunts the depths—over 100 feet, if it can find such water. A copper line is used in preference to a heavy sinker to reach these depths, although either of these methods detracts from the sport of hooking and playing these fish.

The lake trout may be taken in early spring, and again in the late fall, when they come inshore in preparation for spawning, on light tackle by such methods as spoon or plug-casting, and even by some on a fly rod. It is thus seen that he is a game fish, and will provide good sport for any angler.

As a food fish, the lake trout takes a prominent place. It is sold commercially, and most of us enjoy this firm, tasty, nutritious fish from time to time on our tables. The flesh ranges from pale to deep salmon colour.

The Boy Speaks

We have taken the liberty of combining in narrative form the following additional gems of humor and philosophy from the essays submitted by public school pupils in the recent essay competition on fish conservation:—

“Conservation means we who are living today have no right to kill the game, fur-bearing animals, the fish and other natural life”—so—

“They should have a society something like the Humane Society, except that it would protect fish instead of animals”.

“In the olden days there were so many Passenger Pigeons in Ontario and the streams flowing into it that the early settlers thought these riches would last forever”—but—

“The Passenger Pigeon has become extinct except for stuffed specimens”.

“I think the head man of Canada should see about it, or pretty soon we won’t have any fish left”—and—

“It would be too bad if the fishing grew so extinct that it would not attract the tourists”.

“Why isn’t there as many fish as in the days of Cabot?”—well—

“You nor I know not what fish must stand”.

“Fishes must find their own food, while we have ours just handed to us”—so—

“It is very necessary that we keep our lakes and streams clear of anything that may be harmless”—because—

"It is as important that fish eat, just as it is us".

"Gas, oil and milk factories are not much use, for they take away the oxygene which the fish need"—and—

"The pollution which the different factories dispose of gathers in the lungs of the fish, making them unable to breathe".

"The farmer should not plow too close to the bank of the stream; because when it rains the clay would get into his gills and he would find it hard to breathe".

"All fish cannot stay in muddy water, because it fills up the breathing pours".

"Many methods, such as polluting the waters kill fish".

"One of the worst enemies of fish is ourself"—therefore—

"If you are a good sportsman, take notice and do not do the foul tricks of some people".

"Very often anglers spear the maskinonge".

"They spear them and throw them lifelessly on the floor of the boat. That is very illegal".

"We should all remember that fishing is illegal"—but—

"Sometimes it is necessary to fish, for they say it is good for the brain".

"You should not catch fish with a hook and line"—and—

"Any fish less than ten feet long should not be kept. It should be thrown back and left for another year".

"A law should be passed so as to prevent all fishermen from fishing out of season"—and—

"People whom we think are poachers should be put in jail for about fifteen years or more".

"We can see that no one breaks the law by netting or spawning".

"I hope that all people in the world who go fishing keep the law in all the countries everywhere".

"These things and many others should be concentrated on"—for—

"The longer there are fish in your lakes, the longer there will be work for game wardens".

"Fishermen should remember the little poem:

‘Do unto others
As you would have them
To do unto you!’ ”

The Old Timer on Fishing

What do I like? I'll tell you, lad,
Of the finest sport I know,
Standing knee-deep in a rippling stream
Where the vagrant breezes blow,
With a rod and line, the world is mine
Where the singing waters flow.

When do I fish? I'll tell you, lad,
A sunny day is fine;
Droning bees in the heavy air
Make for a running line.
And the rush of the reel is all I feel
When a black bass takes the line.

Only on sunny days, you ask? Shucks, no;
I've had 'em bite
When the wind was blowing a stiff nor'west
And the rapids were running white.
For any old day is a fisherman's way
When the big black bass will bite.

And it isn't the fish you get, my lad,
Nor the big one that got away—
But the joy and peace of wind and stream
That make a fisherman's day.
For the reel and the rod are gifts of God
To the man who has learned to play.

—Katherine M. Choby,
Pennsylvania Angler.



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Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

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HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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FOREWORD

THE wild life of Ontario is a public legacy which for purposes of administration has been entrusted to the Department of Game and Fisheries. The value of the heritage can only be partly and roughly computed in dollars and cents. It has a value which outranks its material worth, because, besides being an integral part of our economic system, it is of tremendous importance from a recreational standpoint, and recreation means health and happiness, vital factors in the life of a people. As every citizen has an equity in this heritage, it is essential that all should be familiar with the conditions which govern and the work being done to maintain and develop this public trust. It is with this in mind that we have summarized in the following pages the many activities of the Department which have for their object the protection, rehabilitation and perpetuation of our wild life resources.

It is well to remember at the outset that the problem of administration is complicated by the destructive effects of modern civilization. Nature populated our forests with game and fur bearing animals, our fields, woods and marshes with game and insectivorous birds and our waters with a variety and abundance of fishes not excelled elsewhere. In the scheme of nature a proper balance as to numbers was maintained through natural instinct; the weak succumbed to the strong and life was sustained through this domination. It is a primary law of nature that life is fostered and controlled through death; the spider enmeshes the fly; the birds keep the insects and small rodents in check, while they in turn are preyed upon by other predatory birds and animals; the fox and the wolf live mostly on weaker but more fecund forms of animal life; while the growth and development of any species of fish is dependent upon aquatic life, including smaller fish, often of the same species. In addition, provision appears to have been made for checking over-abundance by means of disease which periodically attacks such species as rabbits, grouse, etc. This provision of nature for setting up a proper balance has been completely upset through a variety of causes. These are mostly a result of the encroachment of civilization and the economic development which is an essential part of human existence. The saw and the plow, for example, have destroyed wild life food and shelter, forest fires have laid bare extensive areas, industrial activity has interfered with waterways and polluted streams, while man has not always been wise in his use of the available resources. These are some of the conditions which

complicate the problem of conserving wild life and have upset the balance set up by nature.

While it is part of the conservation programme to restore as far as possible natural environmental conditions, it will be obvious that much of the difficulty is of a permanent nature incidental to our economic development. The clearing of lands for agricultural purposes is of primary importance to the human race, but clean lands mean a scarcity of game; power developments on our waterways, with the resultant variations in water levels, are necessary to our creature comforts, while the disposal of sewage and industrial waste in active waters is a convenient method of taking care of engineering difficulties; both are injurious to fish life. If these important facts are kept in mind the necessity for an intensive programme of conservation will be obvious and the need for adapting the work of rehabilitation to meet existing conditions apparent.

Evaluating Wild Life

The Fur Industry

The natural resources of a country are the foundation of its wealth and our wild life natural resources form a substantial part of our economic stability. The pioneer made extensive use of wild life as a food supply and the early history of the country is a story of exploration and development in the interest of the fur industry. In those early days wild life was the magnet which drew the hardy trappers and fur traders into the almost inaccessible depths of an unknown and frequently inhospitable country. Despite the hardships involved, the fur trade was one of the staple industries and had much to do with opening up the country. Today the trapper is still an important factor in the economic value of our wild life, although much of the romance and glamour has gone out of the business, and the fur farmer is gradually supplying the trade with certain classes of pelts which have become scarce in the wild. The following summary shows the number and classes of pelts taken in the Province of Ontario and reported by licensed fur-buyers during 1937.

Summary

Bear	476	Mink	33,930
Fisher	2,117	Muskrat	370,239
Fox (Cross)	4,156	Otter	3,779
Fox (Red)	35,232	Raccoon	14,243
Fox (Silver or Black)	360	Skunk	87,950
Fox (White)	17	Weasel	78,643
Fox (Not specified)	276	Wolverine	2
Lynx	2,081		
Marten	1,464	Total	634,965

The estimated value of these pelts was \$1,902,407. In addition, 28,632 Fox (Silver, Black or Blue) pelts and 15,691 Mink, with a total estimated value of \$1,067,848 were raised in captivity and disposed of by fur farmers.

Commercial Fisheries

Another factor of importance in evaluating the economic worth of our wild life resources is the Fishing Industry. The Province of Ontario has extensive inland water areas, as a result of which, commercial fishing is carried on on a large scale. According to information furnished the Department, some 4,440 men were employed in the industry during last year and the equipment used was valued at \$3,277,701. This included boats, nets, docks, etc. During the year there was a reported catch of 36,092,872 pounds, or over 18,046 tons, of various species of fish. It is estimated that on the market these had a value of \$2,644,163.

Food Value

It should be noted that the fish and game taken for private use would, if computed in terms of money values, represent a very large sum. Upland game birds, deer, rabbits, game fish, etc., provide a considerable amount of food in the course of a year, but as these are not commercialized their economic worth in this regard is frequently overlooked.

Recreational Value

While the commercial fishing and fur industries are of importance in the economics involving natural resources, wild life has a far greater value as the foundation of a tremendous outdoor recreational industry. It is difficult to estimate the money spent for food, transportation, equipment and services of all kinds incidental to "the pursuit of happiness" for which wild life provides the incentive. To the countless thousands of resident anglers and hunters must be added the host of tourist visitors, who, in large measure, are attracted by the excellent hunting and fishing which is made available to them. When it is remembered that the summer tourists are vacationists, uninterested for the most part in cities and towns, but deeply intrigued with what we have to offer in the way of relaxation by lake or stream, and that these visitors are numbered in millions, then the economic recreational value of our wild life resources becomes clearly apparent. Tourists are reported to have spent approximately \$120,000,000 in the Province of Ontario last year, and, while it would be absurd to claim that the splendid fishing for which the Province is justly famous is responsible for this tremendous industry, it is a fact that a large percentage of these visitors are keenly interested in fishing. As an indication of how this feature has been developed, it is interesting to note that the returns from tourist angling licenses in 1912 amounted to \$40,000, while for the year ending March, 1938, the total was \$331,430.

Real Worth

By approximation, we can arrive at some idea of the material worth of our wild life, but it is important to add that it has a value which cannot be computed in terms of dollars and cents. Inherent in most of us is a desire to fish and hunt. Both of these recreations are associated with the out-

doors; not the outdoors of Main Street, or the public amusement park, but the wide open spaces where nature reigns supreme, and land and water combine to radiate an atmosphere of peace. Apart from the recreational pleasures which fishing and hunting afford, there is the more important fact that both sports are conducive to health, and mental relaxation. In the fishing environment, for example, the cares and worries of business life disappear completely; the absence of artificialities, the soothing influence of the surroundings, and the thrill of the "strike" all combine to banish care and induce contentment. In the outdoors there is health and happiness, the most desirable things in life. Wild life presents the opportunity for unexcelled sport under conditions which promote these attributes, and provides an atmosphere capable of exerting a strong influence on the building of character. Its value in this respect cannot be computed in terms of material worth, but it is a most important contribution to our social well being.

Summary

Summing up this brief reference to the value of our wild life resources we find that we have in them an asset of tremendous importance. It is a resource which, if used wisely, will keep on renewing itself from year to year. The conservation programme of the Department of Game and Fisheries is intended to stimulate this reproduction through protection, and to assist nature to overcome the handicap of environmental changes, through artificial propagation. To be successful, such a programme requires the co-operation of every citizen. This assistance is best rendered by personal observance of the regulations and by discouraging illegal practices in others. The ethics of good sportsmanship, if consistently followed, will result in a fuller measure of enjoyment for the individual and ensure that this valuable heritage will never be dissipated.

Fish Culture

As has been mentioned, the scheme of nature for the propagation and perpetuation of any species of wild life is complete and self-sufficient, but is predicated upon the assumption that the natural balance will not be disturbed. This balance provides for the complete dependence of one species upon another and the inter-relationship which is thus set up is the basis of nature's plan for control and development. In the case of fish, the cycle begins in the mud at the bottom where minute animal life forms the food of the small fry; these in turn furnish part of the food quota for larger species; and this process of consumption and development continues ad infinitum. Nature's provision for this normal wastage is the lavishness with which she provides for reproduction. Even the smallest of the fishes will deposit many hundreds of eggs, while larger species each supply scores of thousands. Obviously it was not intended that all of these should reach maturity, so, many of the eggs and a large proportion of the young supply natural food, and over-production of any one species is controlled.

When man enters into the picture, however, this happy situation becomes upset, for in his choice of food and sporting fishes he is discriminatory. He demands certain desirable species for food, and in his recreational pursuits confines his efforts largely to the taking of what are known as "game fish". This heavy concentration on certain kinds of fish means a tremendous drain on those species, and makes it necessary to assist nature if the supply is to be maintained. It was with a view of helping to take care of this situation, involving supply and demand, that modern fish culture methods were introduced.

In keeping with up-to-date practice, the Department maintains and operates twenty-one fish hatcheries in as many suitably located points throughout the Province. In addition to the hatcheries, and frequently in connection therewith, are numerous trout and bass rearing ponds. Hatchery practice is too well known to require more than passing reference. In the case of commercial fish, the Department employs a large number of men who go out with the fishermen during the spawning season and remove the spawn from live fish taken in the nets. These are sent to the various hatcheries. Frequently the spawn gathering is done by the fishermen themselves, who are paid so much per quart for the eggs obtained. For the rearing of speckled trout the Department maintains thousands of adult parent fish at the hatcheries. From these an adequate supply of eggs necessary to the production of millions of this species is obtained. Maskinonge spawn is recovered from adult fish which are trapped in various waters where they are plentiful, and released again after the spawn has been gathered. As it is impossible to raise bass by the ordinary hatchery methods, the natural procedure is followed as closely as possible. Large numbers of parent fish are kept for breeding purposes and special ponds and nests provided. When the young are born they are protected from the cannibalistic instincts of the parent fish and raised separately.

It is pertinent to add that, by artificial methods of hatching and raising, much of the loss which occurs in the egg stage under natural conditions is obviated, because the eggs are collected and thus removed from the food list of other fish. The resultant hatch is therefore much greater than it would otherwise be. The same conditions apply to the young fish. Raised artificially, they are protected during a very critical period of their lives and when placed in public waters have a much better chance of escaping their enemies.

The ideal plan would seem to be to raise them under artificial conditions until they have attained a size at which they would be better able to take care of themselves. This policy is being tried out in the case of speckled trout and other stream fish. These are now kept over in special rearing ponds until they have reached the yearling stage, and by the time they are planted many of them are almost of legal size.

The following table gives a summary of the hatchery plantings for the year ended March 31st, 1938.

Distribution of All Species from April 1, 1937, to March 31, 1938.

	Fry	Fingerlings	Yearlings	Adults	Totals
Lake Trout	7,892,000	15,782,352			23,674,352
Herring	5,300,000				5,300,000
Atlantic Salmon	7,203				7,203
Whitefish	387,683,875				387,683,875
Pickarel	265,743,435				265,743,435
Maskinonge	420,700				420,700
Perch	9,150,000				9,150,000
Blue Pickerel	1,000,000				1,000,000
Speckled Trout		384,725	1,167,073	16,103	1,567,961
Rainbow Trout		105,241			105,241
Kamloops Trout		83,000	23		83,023
Brown Trout			97,484		97,484
S.M. Black Bass	1,275,000	141,900		5,896	1,422,796
L.M. Black Bass	135,000	4,120		97	139,217
					<hr/> 696,395,287 <hr/>

The Necessity for Conservation Laws

Early handling of wild life was characterized by needless waste and a reckless disregard for the future. True, there were certain regulatory laws on the statute books for the purpose of protecting the resources, but these were honoured more in the breach than in the observance, and methods of enforcement were entirely inadequate, and frequently lacking. This condition can probably be ascribed to lack of knowledge and want of foresight, but it was one which threatened to seriously impair a valuable asset. The old fallacy that our wild life resources were inexhaustible collapsed rudely when we discovered the spectre of extinction and the shadow of depletion hovering on the edge of our recreational environment.

As a result of the general laxity which prevailed, we find, according to official records, that our wild life heritage was heading straight for disaster. For example, we note that in 1890 a Royal Commission was appointed to investigate the situation and reported in part as follows: "In some counties of the Province deer are almost extinct. Illegal killing of deer is practised by all classes of the community, and the law regulating the number of animals to be killed each season by each hunter and which is popularly known as the 'party clause' is entirely and utterly disregarded.—The extent to which the game birds of the Province are being slaughtered for exportation to the United States of America is almost incredible.—The extent to

which fishing is carried on in the close seasons is alarming and the exposure of fish in the markets of the larger towns and cities of the Province during the close season is open and defiant.—The evidence taken points to the fact that nearly all the waters in the Province are more or less depleted”.

Obviously drastic measures were necessary to afford protection, and as a result of these exposures more effective laws were passed and a serious attempt made to provide more efficient enforcement. Since those days the Game and Fisheries Laws have kept pace with ever-changing conditions and advance in knowledge.

The present laws and regulations are a most important part of the general programme for the conservation of our fish and game resources. They are the result of half a century of practical experience plus the biological knowledge acquired after years of research. They are restrictive only in so far as is necessary to ensure proper use and a continuous supply. Close seasons are provided in the interest of natural reproduction and are determined from a study of the life history of the various species. Bag limits and limits of size are intended to ensure an equitable distribution of the available resources, and that adult fish will have the opportunity to reproduce. Obviously limiting the take helps prevent waste.

In every walk of life there are certain laws and conventions which govern, and these we must know and observe or suffer the consequences. The observance of the laws which regulate the taking of fish and game is of major importance in securing for every citizen the opportunity to enjoy the recreational pleasures which wild life affords. It is the duty of every sportsman, therefore, to make himself familiar with these laws and, having done so, see that his actions afield are in keeping therewith. Co-operation in this regard will help to conserve a valuable heritage.

The Protective Service

Half a century ago the enforcement of laws in connection with hunting and fishing was almost negligible. There were few Game Wardens, and those who held the appointment were paid so poorly that they could not devote their full time to the work, and found it more advantageous to close their eyes to much that took place. As a result of this condition, law observance was at a low ebb and wild life suffered thereby. Gradually, however, an efficient and effective protective service has been built up and is doing splendid work in connection with the enforcement of the Game and Fisheries Act.

The work of the Overseer, or Game Warden, is beset with many difficulties. In the first place, he must of necessity cover an extensive territory, much of it off the beaten track; and in the second place, he is faced with an attitude on the part of a section of the public which implies a lack of any serious moral qualms over non-observance of the Game and Fisheries Laws. These, they argue, are not a part of the Criminal Code with its implication

of crime, therefore they may be disregarded to suit personal convenience, and, if caught, a penalty may be paid without loss of prestige or social standing. It is an unfortunate line of reasoning, because to deliberately break any law in connection with public property is to deprive someone else of his rights in that regard.

If, on the other hand, the regulations are viewed as the rules governing sport, then their non-observance shows a lack of sportsmanship and the ethics which govern.

The Game Warden is invariably courteous in carrying out his duties, but his task would be much easier if all those who hunt and fish would recognize that the laws are intended to ensure the greatest pleasure for the greatest number and that to disregard the rules of the game is to deprive posterity of its rightful share.

At the present time there are ninety permanent Wardens devoting their full time to enforcement work. The services of this field staff are augmented by the assistance of the Provincial Police Force, as well as certain seasonal officers who are employed for varying periods in order to provide adequate patrol service along certain waters during the spring and fall fish spawning periods, as well as enforcement work during the various hunting seasons.

We are happy to report that the general body of sportsmen never were so conservation-minded as they are to-day. As proof of this we would point to the fact that to date almost 1,500 sportsmen have voluntarily offered their services to, and been accepted by the Department as Deputy Game Wardens. This is over 500 in excess of the number appointed last year at this time. These men are clothed with all the authority necessary to enforce observance of the Act. It is obvious that the practical support and moral effect of this army of voluntary workers is of very great importance in preventing abuses of the privileges enjoyed by sportsmen.

Notwithstanding the fact that the public is becoming more informed on the value of wild life and the necessity for ensuring its conservation through co-operation in law observance, the poacher and the illegal taker are still active in our midst. Law breaking, of course, is something that those in authority have always had to cope with since the day when Adam first disregarded the regulations governing residence in the Garden of Eden.

During the year the protective officers have been extremely active in their efforts to keep the law breaker in check. As a result of this eternal vigilance we find that for the year ending March, 1938, some 1,049 convictions for breaches of the Act were obtained, resulting in the imposition of fines totalling \$11,531.00. In addition to the fines, a considerable amount of equipment was confiscated and will be duly disposed of by public sale.

We shall probably never be able to completely eliminate the poacher, human nature being what it is; but we are determined that there will be no let-up in the work of curbing his activities. Your co-operation in this regard will be of very great assistance to those intrusted with the work.

Game Preserves

When it became apparent that game was suffering from the inroads of civilization and gradually being pushed northward, it was realized that definite action must be taken to ensure preservation of the various species. The great, and largely unopened, northland was a paradise of nature; its virgin forests and extensive waterways harboured game and fish in abundance. One of the first and most important measures taken to conserve wild life in perpetuity was the setting aside of extensive areas in Northern Ontario as Provincial Parks. In these parks no hunting or trapping is permitted and wild life has become quite plentiful. These protected areas were greatly increased by the Department of Game and Fisheries which has closed extensive sections of Crown lands to hunting and trapping. These closed areas are known as Crown Game Preserves. As showing the extent of these protected areas, it is noted that the two largest, viz: the Chapleau Game Preserve, in the districts of Sudbury and Algoma, and the Nipigon-Onaman Game Preserve, in the Thunder Bay District, represent areas of 1,824,000 and 1,600,000 acres respectively, and by way of comparison, we might add that the total of the two is larger than the combined areas of the Counties of Bruce, Grey, Huron and Perth.

In the southern part of the Province the necessity for such extensive areas does not exist, but it was deemed advisable to set aside smaller sections of land in the various Counties for the natural development and protection of small game. Through the co-operation of private landowners, the Department has been able during the past three years to establish some fifty-one of these areas. They are particularly adapted to the raising of upland game and most of them had a substantial foundation stock of pheasants or were supplied by the Department. Hunting is completely prohibited in these preserves, even when they happen to be a part of a Regulated Shooting Area.

In all, there are a total of 115 Crown Game Preserves in the Province, representing an area of well over six million acres. They serve the purpose of protecting game in suitable environment and under natural conditions. This, in turn, is of considerable value as a means of perpetuating the different species, and of populating the surrounding territory.

Restricted Waters

In the matter of water areas, the Province of Ontario is richly blessed. Without exaggeration, it can be said that this is a fisherman's paradise. Lakes and streams in countless numbers cover the country, and while those in the southern part of the Province are accessible to the sportsman and have been heavily fished for years, many in the northern section are still virgin waters. To prevent depletion of game fish through too intensive fishing, and as an aid to normal development, a number of water areas have been set aside for varying periods as closed waters. In these sections fishing

is prohibited and the result should be greater reproduction and development. As most of these closed areas are but parts of larger bodies of water they serve as bases not only for self-replenishment, but also for the restocking of other connecting waters.

So far as the sportsman is concerned the closing of these areas for temporary periods presents no particular hardship because of the fact that so many other public waters are available for his convenience and pleasure, and any inconvenience is amply compensated for by the prospect of better fishing in those particular waters.

At the present time there are some forty-two of these closed waters. These areas will be found listed in the blue book issued by the Department, and further particulars may be had on application. Where there is any doubt, look for the official signs which are posted at each area.

Education and Publicity

We have stated elsewhere that we are not sanguine enough to believe that moral suasion or legal punishment will ever serve to entirely eliminate the poacher, that would be too much to hope for, but we do feel that much can, and is being done to discourage minor offences, through education and the influence of public opinion. Many breaches of the Act undoubtedly arise through thoughtlessness, or a lack of knowledge. The sportsman should have little excuse for not knowing the rules of the game, and when he fails to observe them the breach must be classed as deliberate. His attitude is frequently that of the motorist who burns up the highway at 70 miles per hour, contrary to the provisions of the Highway Traffic Act and public safety; it's all right so long as you don't get caught at it! He, of course, would not stoop to commit a major offence, but the fact of a few extra or undersize fish in his catch does not appear to offend his sense of propriety. A little reasoning should convince such thoughtless individuals that this attitude is wrong. The speed limit is intended to promote safety, and the fixed bag limit to ensure the security of a public trust; to ignore the one is to endanger the public, and to side-step the other is to jeopardise a valuable heritage and take an unfair advantage of one's fellow man.

On the other hand, many young people, as well as others of maturer age, lack a knowledge of the regulations, or the ability to distinguish the species, and because of this fact frequently find themselves in trouble. Ignorance is no excuse in law, and the obvious antidote is enlightenment.

With a view to making the public conscious of the need for a policy of conservation in connection with the handling of our wild life resources, the Department is carrying on a campaign of education and publicity work. The programme has included a great many public addresses by various members of the staff in co-operation with Fish and Game Protective Associations, Service Clubs and other organizations scattered throughout the Province. In addition, many public and high schools have been visited and suitable talks delivered. These were made more interesting by the showing of motion

picture films depicting wild life in its natural state and under a variety of conditions.

This lecture work and visual education has been amplified by the preparation and publication of the Monthly Bulletin, designed to stimulate interest in the conservation of our wild life, and provide information concerning the activities of the Department. Newspapers throughout the Province have reprinted many articles from the Bulletin, and in this way its value as a means of education has been greatly enlarged.

The work of the sportsmen's associations is of very great importance in supplementing the programme being carried on by the Department. These organizations are mostly founded on a desire to protect the resources and provide better hunting and fishing for the sportsman. The influence of an active organization imbued with the proper ideals, over all those who come within its sphere, is worth while. The ethics of sportsmanship are expounded, the necessity for law observance is emphasized, and co-operation becomes a fundamental principle. In such an atmosphere experienced and prospective fishermen and hunters learn to appreciate the privileges which are available and the necessity for guarding those privileges against unwarranted abuse.

It is hoped that the various activities which are being carried on will result in a more general knowledge of the problems affecting wild life, and a deeper sense of the responsibility of the individual for the protection of these resources. Such knowledge and understanding would undoubtedly result in fewer infringements of the Act, less waste, and a keener desire to co-operate with the Department in its efforts to properly administer this important asset.

Regulated Shooting Areas

A most important innovation last year was the setting aside of some twenty-five Townships as Regulated Shooting Areas, and the opening up of these sections for a two-day pheasant shoot, under conditions which necessitated the purchase of a special license from the municipality where one elected to shoot. As this scheme has met with the approval of sportsmen and landowners it will probably be of interest to the sporting public to know the details.

In introducing the subject, it seems desirable to say a few words as to the reasons for the inauguration of this system of further control in connection with hunting.

For many generations the sportsmen of the Province have been privileged through the goodwill of the landowners, to make free use of private property in their pursuit of game. It was a very pleasing situation from the sportsman's standpoint, because it enabled him, at a minimum of cost, to enjoy the sport of hunting which in many other lands is the prerogative of the rich. It should be noted, however, that while game is a common heritage, the land which it inhabits, particularly in Southern Ontario, is mostly

privately owned. To reduce the game to possession, the hunter must have the goodwill of the landowner, failing which, a spirit of antagonism is set up between the two which results in the cancellation of the privileges of entering upon the lands to hunt game. Unfortunately, during the past few years, the goodwill which formerly existed has been gradually lessening as a result of lack of consideration by a certain type of hunter of the property rights of the farmer. This has resulted in a great deal of complaint from landowners and the extensive posting of lands against trespass. It was a situation which, if permitted to develop extensively, might easily have had the effect of greatly reducing hunting privileges. Recognizing this fact, and feeling that any plan which would have the effect of eliminating the grievances of the farmer through more rigid control of the hunter would be in the best interests of the sport, the Department formulated a plan for the establishment of regulated shooting areas in certain Townships.

To better understand the conditions which apply, it should be noted that in most of these areas the available hunting consists of upland game-birds, rabbits and ducks. The latter two are fairly plentiful and provide most of the hunting. For many years the Department has been endeavouring to stock suitable areas of the Province with English Ringneck Pheasants and although the results in certain Counties were sufficiently successful to warrant open seasons, in others development was somewhat slow. Most of these latter areas never were opened to pheasant hunting and the good sportsman refrained from molesting the birds. Unfortunately, the poacher was not quite so considerate and a great deal of illegal taking was practised. This meant that close seasons in the slower areas had a tendency to provide game for the poacher, while the decent sportsman gave the birds a chance, and waited patiently for the open season.

The opening of a short pheasant season in a few districts such as the Niagara Peninsula also resulted in a large influx of hunters to these areas. A congestion of hunters in any district leads to many complications and much unfavourable publicity. The farmer objects to overcrowding of his lands and a nervous public raises many bogeys of imaginary danger, or exaggerates on realities. In any case, where facilities are limited and many desire to take part, the result is usually unsatisfactory.

For many years also the Department has been supplying an average of about 17,000 pheasant eggs yearly to sportsmens' organizations and private individuals who undertook to hatch the birds and release them in due course. This policy was only partly successful, for while much valuable assistance was rendered by the parties referred to, the mortality rate among the young birds was very high, as a result of lack of knowledge or proper care.

Another situation which frequently created a great deal of annoyance to rural residents was the heavy influx of hunters from urban centres who literally swept over the countryside on jack rabbit drives. These drives were not always well conducted or carried out with a proper regard for

the property rights of the farmer. As a result friction sprang up and bad feeling ensued.

All of these factors were taken into consideration in devising the scheme of Township Regulated Shooting Areas. Briefly, the conditions which govern are as follows:

On application by the Municipal Council the Township is set aside by Order-in-Council as a Regulated Game Preserve Area, and the hunting, taking or killing of any game (bird or animal) in or upon any such Regulated Game Preserve Area, except as authorized by the regulations proclaimed by the Department of Game and Fisheries, is prohibited.

The carrying of fire-arms for the purpose of hunting in or upon any Regulated Game Preserve Area is also prohibited, provided, however, that any resident living upon lands within the area may carry fire-arms upon his own lands for the purpose of destroying such vermin or predatory birds or animals as may be destructive to property.

The regulations provide that the Department may prescribe the following open seasons:

- (a) Pheasants on days to be designated.
- (b) Rabbits between November 1st and February 28th next following, where it is established that the spread of these animals ought to be controlled on any such area.
- (c) Ducks during the regular open season for same.

During an open season for pheasants, the Township Council, which is usually the controlling organization, is authorized to issue a special license, which is in addition to the usual gun license, to non-residents of the Township at a fee to be established by the Department. In the case of residents of the Township, a license is also necessary, but this is issued at a purely nominal fee to take care of expenses in connection therewith. The funds derived from the sale of the special permit go to the Township Council. Control in any area is exercised by limiting the number of non-resident licenses available for sale in proportion to the size of the area or the number of birds available. This control also applies to the seasonal hunting of rabbits because only those who are in possession of the special hunting licenses issued by the Township may hunt rabbits in that area during the open season for same. The permit provides facilities for identifying the owner and must be worn conspicuously on the clothing when hunting in a Regulated Game Preserve Area.

The Department of Game and Fisheries liberated a total of over 5,000 birds in these areas last year, and shipped over 4,000 eggs for private hatching. In addition, each area had a reasonably good natural crop of birds.

What are the advantages of such regulated areas? In the first place, the control exercised through limiting the number of non-residents who may hunt in the area, and the protection afforded the farmer, as well as the wild life, through the closing of the area to all hunting except during a small por-

tion of the year, has brought about a better spirit of co-operation between the farmer and the sportsman. The former is willing to open his lands to such reasonable demands, and the latter is assured that when he has bought a license he will not be embarrassed by being ordered off the land, unless it is privately posted against trespass, and that through the extensive planting of birds within the area he will be reasonably sure of at least the opportunity of obtaining some game.

Because of the fact that every resident of the area is a potential game warden, and that indiscriminate hunting is prohibited, poaching is largely eliminated, and the pheasants are given a chance to develop.

Reports received by the Department from Municipalities which had the opportunity of trying out the scheme last year are unanimous in designating it a success. Since then, some eighteen additional Townships have made application to be included in the scheme and none of the originals have shown any inclination to withdraw.

To take care of the situation the Department has enlarged its facilities for pheasant raising through the introduction of modern equipment, and in addition, has arranged to purchase several thousands of birds from private individuals. It is expected that this year 20,000 or more birds will be liberated in Regulated Game Preserve Areas in anticipation of a Pheasant Shoot this Fall.

Conservation

“If a bird’s nest chance to be before
thee in the way in any tree, or on
the ground, whether they be young
ones, or eggs, and the dam sitting
upon the young or upon the eggs, thou
shalt not take the dam with the young.”

—Deuteronomy 22:6.

This is probably the first written law for the preservation of wild life, and the underlying principle is the basis for the protective measures which are in force to-day. The capacity of nature to reproduce itself in sufficient quantities to supply our present demand is dependent upon a great many conditions such as proper environment, food, cover, etc. In addition, however, there is the idea contained in the biblical injunction that sufficient seed stock must always be preserved to take care of reproduction. To destroy the dam along with the young would obviously be unwise—like killing the goose that lays the golden egg, to use a modern simile, for in that case, no provision is made for future needs. The first farmer who saved enough grain to furnish seed for the next year’s crop established the same principle. It should be noted in this respect that nature has lavishly provided for reproduction, but unrestrained taking by man would soon deplete the resources beyond the point where natural propagation would be sufficient to maintain the supply.

Conservation is the word most widely used to-day to embody the principles and ideals underlying the scriptural command. As applied to wild life, it has a wider meaning than simply the preservation of these resources from destruction. In its broader sense it may be defined as "their intelligent use," so that they may provide for all our human needs, reproduce their kind, and be available for future generations. It does not imply the cessation, or limiting of sporting activities, except to the degree necessary for the building up of such species as have suffered from the unbridled license of pre-conservation days, and the encroachment of civilization. Because of the destructive effect of these two factors the general programme of conservation has been extended to include restoration of environment, replacement, where possible, through natural and artificial means, and the adoption of such measures of regulation and control as will ensure the development necessary to meet the demand.

The various activities of the Department of Game and Fisheries are an effort to meet modern conditions and public requirements. Game Preserves, Regulated Shooting Areas, Restricted Waters, Artificial Propagation, and the Regulations which govern, all are part of the scheme to conserve the resources and provide a plentiful supply of such desirable species of game and fish as will meet the economic and recreational needs of to-day and securely establish a foundation stock for tomorrow.

To ensure the success of any scheme for improving wild life conditions the co-operation of the individual is of primary importance. The sportsman should be particularly responsive to the conservation movement, for it is essential to the future of his sport. The experience of half a century ago and the passing of several species are vivid reminders that we cannot destroy recklessly and still hope to have a permanent abundance. Conservation measures are intended to control and, obviously will not be effective unless they receive public support. It is logical to assume that those for whose recreational pursuits wild life provides the incentive and whose capacity for destroying it is therefore greatest, should be most anxious to establish its premanency. The individual can contribute greatly to the protection of these resources by assuming a direct personal responsibility for the prevention of waste through illegal taking. In this regard it is well to remember that fish and game are a public inheritance, therefore, the rights of others must be respected. The good sportsman will readily see that co-operation with the Department is vital to the success of its conservation programme.

The General Situation

The general situation throughout the Province with regard to game and fish is reasonably satisfactory. During the open season last year deer were reported to be more numerous in many sections than they had been for over a decade. It is altogether likely that the comparatively mild winters of the past two or three years and the added protection which has been afforded

them has resulted in a large increase in numbers. Hunters are evidently finding this sport just as interesting as ever, because it is noted that the income from resident deer licenses showed an increase of \$12,969 over that of the previous year. In the sections of the Province where closed seasons have prevailed for years, deer have become very numerous; in fact, in many places they are now so plentiful as to be the cause of numerous complaints to the Department.

In the sphere of upland game, conditions are also very gratifying. Ruffed Grouse have not been numerous enough to warrant an open season, but pheasants and Hungarian Partridge have become well established over a large section of the southern part of the Province. Twenty-five townships and two counties, in addition to Pelee Island, were opened to pheasant hunting last year, and the success of the shoot was very pleasing. Rabbits still afford excellent winter hunting and the Jack has now spread over a very wide area.

The duck situation has improved considerably all over the continent, although Ontario hunters found no scarcity of wild fowl last year.

The fishing season has been in progress for several months and advices from all parts of the Province show that the angler is having plenty to rave about. Intensive restocking and other favourable conditions are producing very satisfactory results. By reason of the fact that the water areas of the Province are so extensive and the varieties of fish available so numerous, it is difficult to do more than comment in a general way on the fishing situation. Angling for speckled trout and brown trout has improved considerably and many suitable streams in old Ontario, which for years have been more or less depleted, are once more providing excellent sport. Two enthusiastic anglers recently called at the Department specially to advise us that they had been very successful in their quest for brown trout in a stream not many miles from Toronto.

Bass fishing last year in many sections was the best it has been for a number of years. The season is still too young for complete reports of conditions this year, but already advice from many quarters speak of good fishing.

The pictures and stories of large pike and muskies taken by anglers which have been appearing in the press during the past few weeks are proof that big fish are still to be had in reasonable numbers.

In short, we believe that the waters of the Province are still providing scores of thousands of anglers with the finest in sport and health-giving exercise, and that the general situation from the sportsman's standpoint is good.

Verb. Sap.

Treat your equity in wild life as a personal inheritance and you will not be likely to squander it foolishly or permit others to dissipate it.



Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

October
1938

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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NUMBER FOUR

FOREWORD

SPORTSMENS' Organizations throughout the Province are beginning to resume their fall and winter activities, and executives are busy planning programmes of educational and social merit to complete a schedule of regular meetings. Both the meetings and the programmes are essential to the success of every such organization. It is a very pleasing sign of the times that there is among sportsmen a new conception of the problems of restoration and conservation, and a widespread realization of the necessity for co-operation between those who participate in the sports of hunting and fishing and the Department which administers the resources which make them possible. Sportsmens' Organizations are rallying around the conservation banner as never before and as a consequence these associations have enlisted more public attention and support than has been apparent heretofore. The influence of this organized effort to improve conditions for the sportsman, through education in the ethics of sportsmanship and the problems surrounding the development and perpetuation of wild life is of very great importance in consolidating the work of the Department towards that end.

Sportsmen will appreciate that without the backing of the individual no organized strength is possible, and that united effort is indispensable to success. In so far as conservation is concerned the individual can do a great deal through precept and example to protect the resources necessary to his sport, and influence others to do likewise. On the other hand that influence can be immeasurably extended and more effectively co-ordinated through the machinery of organization. We, therefore, urge all sportsmen to get behind the Fish and Game Protective Association in their town or district and see that its effectiveness in carrying out the ideals for which it stands are not impaired through lack of moral support, or divided effort.

The inspiration of leadership is of prime importance in carrying on the work of the associations. Proper organization will be reflected in enthusiastic membership. To maintain that enthusiasm frequent contact is necessary, and this can best be arranged through regular meetings, particularly during the fall and winter months. The responsible officers should not neglect this vital plank in the conservation programme.

Off-Season Reflections on Fishing

Officially the angling season never closes. All year certain species of fish in designated waters are available to the fisherman, if he has sufficient enthusiasm to want to prolong his sport, and hardihood enough to brave the rigours of our fall and winter months in pursuit of his piscatorial pleasures. In practice, however, we find most experienced anglers laying away their equipment after the close of the speckled trout season in September, while those with more devotion are generally satisfied to quit on or before the 15th of October, which signifies the end of the bass and muskie season. Unofficially therefore, the angling season may now be said to be over.

With his equipment carefully laid away the angler has much leisure for reflection, and the memories of a good sportsman in so far as his recreation is concerned are invariably pleasant. The happy faculty of finding "tongues in trees, books in the running brooks, sermons in stones and good in everything" is a state of mind which fishing and good sportsmanship do much to develop. As a consequence the off season merely affords the leisure for a fuller appreciation of many happy days on lake or stream and provides the underlying reasons for that enthusiasm which is a characteristic of the outdoors man.

Obviously, every fishing expedition undertaken by the angler does not result in obtaining a quota of the particular fish he may be interested in. The best of the game fish are transients, i.e., they are "here today and gone tomorrow". Yesterday they probably were biting almost savagely, today the daintiest morsel fails to tempt them. This fact is well known to fishermen, yet it fails to discourage them, and to the experienced angler it merely provides a challenge to his skill and general knowledge of fish life. A friend of ours, who has recently taken up fishing, invited us to go bass fishing with him the following day. His enthusiasm knew no bounds, for it appeared that the previous day he had found "the finest place he had yet struck", and on that occasion he and his two boys had obtained sufficient large bass for their needs in a very short time. "They were there in hundreds, and nearly all big ones", he eagerly exclaimed! Next day we visited this fisherman's paradise with him, but, although we exerted every wile, not one of the party hooked a fish, or even caught sight of one. Somewhere in that area there were still hundreds of bass, but for the time being they were resting peacefully in some cool, shady retreat and quite uninterested in eating. It is this uncertainty that lends zest to the sport, for the angler who knows his fish finds a great deal of pleasure in outwitting them. On the other hand, the casual fisherman immediately jumps to the conclusion that the place has been "fished out". You remember the fishermen on the Sea of Galilee who "toiled all night and caught nothing", and yet when they were directed to cast their nets on the other side found their catch so heavy they were hardly able to handle it. In the light of angling experience the illustration is quite apt. Weather and seasons, time and place,

not to speak of natural characteristics of fish life, are factors which must be considered if successful angling is to be obtained.

But to return to our previous statement that fishing does not always result in fish; we recently came across the following very pertinent observations by Ozark Ripley. "If a fish was caught every time an angler went after one there would be such a certainty to the sport that the pleasing element, the unexpected, would be lacking. Even in the best southern waters where these fish are supposed to be abundant, there are days when they refuse to take any artificial or live bait. The angler who can't stand barren days might just as well give up the fishing sport".

Two of the characteristics which the sport of fishing tends to develop are patience and perseverance. These are qualities from which much material success may emanate. They are developed largely because of the uncertainty of the sport, a situation which is not always the result of lack of fish, but frequently results from lack of skill and the knowledge as to when and where to fish. The experienced angler knows the habits and idiosyncrasies of his fish, and patiently perseveres with every artifice in his bag of tricks, enticing, coaxing and cajoling, and when he is rewarded by a "strike" the resultant thrill is sufficient compensation for his patient effort.

Sometimes, of course, the fish are biting almost savagely and the veriest tyro has no difficulty in obtaining his limit. Such a condition calls for restraint rather than patience, and it is under such circumstances that the thoughtless individual is prone to take beyond the limits of the law, and his personal requirements. We have stated before, but we repeat the observation, that the greatest pleasure to be derived from fishing is not in catching the fish but in developing and practicing the art. A full creel may satisfy our ego and yet leave us without that sense of exhilaration which the fishing environment is capable of inducing. A friend having returned from a holiday in the highlands of Haliburton, was describing with a great deal of personal pride the thrilling experience he enjoyed in landing several nice pike. His hearers were duly impressed, and one of them enquired as to the bass fishing. "Bass fishing," he replied quite seriously, "was most uninteresting, because they were so plentiful that every time you threw in you caught a bass." To appreciate the sense of such a statement, which at first view seems to be an absurdity, it is necessary to catch the idea and the ideals we have been trying to put across. That which we attain to, or accomplish without effort, is incapable of arousing our enthusiasm. In other words the recreational pleasure we derive from fishing is in direct ratio to the effort induced and not to the number of fish caught. One fighting fish safely landed through the wiles and skill of the fisherman will provide more real thrill than half a dozen caught with no more effort than that of dropping in the bait and pulling out the line.

That this philosophy is becoming more and more the spirit of the

times, as a result of conservation activities and the higher ethics which prevail, is exemplified by the following incident as reported in the Toronto Star of July 20 last. The despatch is dated from Fort Erie, and bears this heading—"Anglers complain of too many fish". "Canadian immigration officers at the Peace Bridge are still gasping at the latest complaint by returning United States tourists. Several Buffalo N.Y., anglers fresh from a fishing trip at Port Maitland, near here, complained, 'Too many fish in Lake Erie where we were. We fished for an hour and caught all we wanted. I'd sooner see them less plentiful. It is more fun'".

The consensus of opinion is that the past season was an excellent one for the fisherman. Reports from all over the Province are to the effect that fish were plentiful and excellent sport was the result. The conservation measures which are in force for protection and re-stocking, coupled with good natural conditions, have combined to maintain and build up the resources of our many waters, despite more extensive fishing than ever before. Therefore in seeking to establish the fact that large catches are by no means essential to a thorough enjoyment of the fishing environment and all it implies, no matter how much they may satisfy our personal pride, we are merely emphasizing a truth for its conservational worth, and not because of any necessity to cover up deficiencies in resources. The angler who succeeds in obtaining his limit without effort, because conditions are favourable, has reason to be satisfied with his good luck, but the fact still remains that the real fun of which our American visitor speaks is intensified when a reasonable amount of skill and effort is necessary to achieve the goal.

It is unusual, of course, to hear sportsmen complaining of too many fish, and we feel sure the complaint will not be general. Nevertheless it is a fact that the present intensive programme of conservation in all its branches being carried out by the Department with the co-operation of organized sportsmen has resulted in establishing a condition in many of our waters which is a source of great satisfaction to all concerned. Fishing generally has been excellent, and this desirable quality can be preserved if all those who fish will maintain a proper respect for the laws which govern, and a sense of their own responsibility for preventing waste.

And so we leave the angler to the peace of his off-season reflections, with the hope that he has many happy memories, and the thought that the future of his sport, in the final analysis, depends upon himself.

A Big Year for the Hunter

This promises to be a big year for the hunter. Already the duck season has been under way several weeks; a partridge season has been declared for Thanksgiving week and during a later period, and plans are being rounded into shape for a pheasant season in some 50 Townships, in addition to Pelee Island and the Counties of Kent and Essex. "Just around the corner" the deer season looms large on the horizon of the sportsman, and

when he has enjoyed these to the full there are still the jacks, the hares and the cotton tails waiting to lure him into the great out-of-doors. Altogether the prospects are quite inviting.

For many weeks the Department has been busy transporting and liberating pheasants in the various regulated areas and counties where an open season will be declared. Each area has received hundreds of birds, and in addition all of these report a natural increase of birds as a result of last year's heavy stocking and conditions generally. The prospects are that there will be lots of pheasants in each section to meet the demands of the vast army of hunters who will take advantage of the open seasons.

It is the hope of the Department that the present arrangement of Regulated Shooting Areas will result in solving a great many of the problems which, over a period of years, have been plaguing hunters as well as those who administer the Act. The sport of hunting in Canada is a democratic institution in keeping with the ideals of the country. It is available to all under certain regulatory laws which, while they control, do not affect the opportunity for everyone, however humble his circumstances, to partake therein. This general freedom to enjoy the sport is, of course, predicated upon the assumption that crown lands will be available for the purpose, or that private owners will afford the necessary facilities over their lands. In the southern part of the Province few crown lands are now available, so the hunting has mostly taken place on private lands. Hunters will appreciate the fact that while the farmer has been generous in permitting the public to pass over his lands in pursuit of game, this very willingness to contribute to the public enjoyment of a natural resource has resulted in damage to his property through a lack of proper care by many of those who take advantage of the privilege. The scheme of Regulated Areas seeks to alleviate this situation by identifying the hunters through the issuing of a license and controlling the number of licenses that will be issued to non-residents of the area—who are undoubtedly the least entitled to the privileges of the district because they contribute little or nothing thereto. On the other hand those non-residents of the area who procure this special license from the Township will be spared the embarrassment of being ordered off private property, except where such has been posted with "no trespass" signs.

The general conditions underlying the establishment of these Regulated Areas under which hunting is restricted to prescribed seasons has resulted in a large measure of protection for upland game birds through the co-operation of the people in the areas, and has made it possible for the Department to intensify its programme of stocking with pheasants, with very satisfactory results. It is believed that through natural development and artificial re-stocking, it will be possible to offer the sportsman who is interested in upland game hunting some of the finest sport to be had on the continent. Naturally, to achieve this purpose it is necessary to have the complete co-operation of the sportsmen and the landowners, and the former can further materially assist by cultivating the goodwill of the latter.

In all these attempts to improve conditions the idea has been kept in mind that wildlife is a public heritage, and should be developed as such, therefore little encouragement has been given to any scheme of private enterprise which would cater to wealth and place the finest of outdoor recreations beyond the pale of the man of modest income. Regulated shooting areas, even if a modest fee is demanded of those who would take advantage of their facilities, are in contra-distinction to the great private shooting preserves which feature most of the countries of Europe and cater only to a select few. We are not suggesting, of course, that the hunter in one of the Township Regulated Areas will find as many birds as he would encounter on one of the grouse moors of Scotland, for example, where everything else becomes secondary to the propagation of birds and the results are offered to the highest bidder; but we do suggest that the hunter in such an area will get just as much real pleasure out of a day's hunting in one of these special areas than he would out of a day's shooting on a grouse moor. In the former case his bag will be lighter, but in all likelihood sufficient for his needs, while his physical and mental reaction will be a reflection of his attitude towards the sport; the man on the moor, on the other hand, may finish the day surrounded by hundreds of birds driven to his gun by paid hirelings, but the very intensity of his efforts to kill will cause an unfavourable mental, if not physical reaction. In this connection Mr. Raymond S. Deek, writing in *Pennsylvania Game News*, has this to say:

"No, it's not all of sport to kill. And it isn't all of good hunting either, to have pheasants or grouse about in forced abundance at the cost of most other wildlife. I've no doubt you have gunned just as I have, in covers too full of game; fished where there were too many fish. When you know for a certainty that these pea patches, those frosted fields of lespedeza will each yield a teeming covey of birds, and you can go right on all season shooting limit bags there, the sport of quail shooting loses some of its mysterious tang. . . . Too great an abundance of game reduces sport largely to terms of marksmanship (except for watching the dogs work) and marksmanship as a sport by itself had as well have trap-thrown saucers for its targets.

"Routine shooting isn't at all the thing that makes hunting the great game it is. It's suspense, the thrill of the unexpected. As often as not it's some unscheduled pantomime that highlights a day afield; a glimpse of a hawk hovering in the sky, then swooping like a shaft of light to make a kill; the random sight of a mink playing through driftwood; the cold, lonesome howl of a wolf in the northwoods!"

How true it is, Mr. Sportsman! The camp story of the deer you killed, is commonplace, for the fact that you killed it eliminates anything but routine shooting, but the story of the buck with the royal spread which suddenly rose up in front of you while you were having a quiet smoke on the edge of a hardwood bush, and got away because its unexpected appear-

ance thrilled you beyond immediate action, will bear telling over and over again. It is also true that the fresh bear tracks you came across the day you were out rabbit hunting provided more real excitement, even if it was only imaginative, than the bag of rabbits you ultimately took home with you. The same thing is true as applied to the angler. There are more thrilling stories told about the big fish that got away than are related about the catch which is brought home. The sport is fascinating, the kill incidental.

The Department of Game and Fisheries is exerting every effort to provide a sufficiency of fish and game to supply the economic and recreational requirements of the people of the Province and the tourist visitors who are attracted thereby. These efforts will be immeasurably nearer realization if the sporting public will play its part by eliminating waste, conforming with the regulations, and practising the ideals of conservation.

A Word of Caution

The opening of the hunting season introduces once more the ever-present element of danger that exists in the careless handling of firearms. Already several major and minor accidents have been reported in the press, and it is quite obvious from the information given that these have all been the result of carelessness. In discussing this matter it is not our purpose to suggest that such accidents are any more numerous than in any other sphere of sporting activity—as a matter of fact the percentage of accidents to the number of hunters is very small—but rather to issue a timely reminder that no matter how familiar one may be with the use of a firearm, or how much experience one may have in the field, the fact remains that the potential danger is ever present and the slightest lapse from sane use, or a moment's lack of care, may result in tragedy.

It is doubtful if general warnings are pointed enough to convey to the hunter who is about to take to the woods in search of game the terrible results that may ensue if he allows himself to forget for a moment that he has in his control a weapon manufactured solely for the purpose of killing. Put to its legitimate and proper use it provides the equipment necessary to participation in one of the finest sports known to man; a sport which dates back to the mystic origin of man himself.

From that standpoint the memories of the hunter may be most pleasant; but if, perchance, the hunter is the survivor of a hunting accident caused by a temporary lapse of that care which is the first rule in the field, then his cup of remorse will continue to overflow for the remainder of his life. We do not propose to recount any particular incident, because these do not make pleasant reading, but we have in mind three separate accidents over a period of years of which we have personal knowledge, two of which were fatal and all of which might have been avoided if that measure of care which is the difference between safety and danger had been exercised. All of these

accidents were the result of a momentary lapse on the part of experienced hunters, which merely proves that more than experience is necessary to ensure safety.

In the bush the hunter is keen and alert, his senses are sharpened and he seldom misses sound or motion within the range of his powers. This condition provides the background for one of the "greatest common factors" in hunting accidents. Keyed up with the thrill of anticipation he hears a rustle in the bush or sees a movement through the undergrowth and immediately visualizes the game he is stalking. It is at this critical stage the good sense of the hunter is liable to desert him, for, afraid that his game will escape, he is tempted to fire without even having identified his target. Such a lapse too often ends in tragedy and bitter remorse. Never, under any circumstances, shoot, unless you know what you are shooting at; that question mark which caused the sound or movement may be your closest friend.

The general rules for safety in the field have been repeated frequently and should be well known to every hunter. They are based on the principle that everything that can be done to avoid accidents is worth the effort, and that carelessness has no place in the manipulation of firearms. As hunters we owe it to our companions of camp and field, as well as to our immediate family, to use the utmost caution when handling guns. Fortunately, the code of the well-run camp is very rigid in this respect. The suggestion that "Accidents will Happen", may be all right in the drawing-room, but in the hunting field it is imperative that the slogan should be "Accidents must not Happen!" Remember, a slip today may mar all your tomorrows.

The following simple rules for safety will, if observed closely, greatly reduce the possibility of an accident:

1. Never carry a loaded gun in the car with you—it is illegal to do so.
2. Always point the gun in a neutral direction when loading or unloading. Load after you leave camp, preferably when alone, and unload before returning to camp.
3. After you load the chamber, see that the "safety" slide, or lug, is in the "safe" position. Hunt with it that way, but don't place too much reliance on its effectiveness.
4. Never stand a gun against a tree or other object from which it is liable to slip. Lay it down carefully with the muzzle pointed away, and when you pick it up again be careful not to get the barrel plugged with snow or dirt.
5. As a further precautionary measure, when laying the gun down temporarily—particularly when others are present, or when otherwise handling it in a manner that might conceivably lead to an accident—open the breech.
6. Take no chances, and don't shoot until you have clearly established the fact that it is game you are shooting at.

The Elk (Wapiti)

Few hunters in the Province have had the opportunity of becoming acquainted with that magnificent specimen of the deer family, the elk. It is doubtful if it ever became established in Ontario except for small bands in the north-west. The natural habitat of the elk was the western plains, and many years ago they roamed in thousands over these areas, but the migration seldom extended far into Ontario because of the nature of the terrain. Like most other species which had been subject to ruthless destruction through advancing civilization and the unbridled depredations of man, the bands became greatly reduced and extinction was threatened. However, when the situation became apparent measures were taken by both Federal and Provincial Governments to protect the remainder of the species.

In the Fish and Game Commission report of 1892 we find the following statement concerning the elk: "A few are still found in Northern Ontario". It was recommended that protection through a close season be continued. A bill passed by the Ontario Legislature in 1892, subsequent to receipt of the Commissioners' report, stated that "no moose, elk, reindeer or caribou shall be hunted, taken or killed before the first day of November, 1895". By an amendment in 1895 the close season on elk was extended to 1900, and in that year the period was continued indefinitely. This restriction has remained to the present time, clearly establishing the fact that the elk had practically disappeared from the Province.

In keeping with the policy of the Department to restore the wild life of the Province wherever possible, we find the following statement in the annual report for 1932. "Elk (Wapiti). During the year, with the co-operation of the National Parks Branch of the Federal Department of the Interior, it was possible for us to arrange for the shipment into the Province of a carload of elk, twenty-five animals in all. The shipment arrived about the middle of November, the animals being in good condition, and in order that the proper supervision might be accorded the experiment, these animals were placed on the Pembroke Crown Game Preserve, the lands of which Game Preserve, are the property of the Department. It is anticipated that from this experiment and future continuation and expansion thereof, it will be possible to successfully introduce this species of game animal into the Province."

One year later another shipment of elk consisting of six carloads was brought into the Province from Wainwright, Alberta, and distributed in the following Game Preserves: Burwash, Chapleau and the Nipigon-Onaman. By 1934 the distribution had extended to include the Goulais River-Ranger Lake Game Preserve. The increase in the herd on the Pembroke Game Preserve, which is an enclosed area, was so satisfactory that in 1935 some of the animals were transferred to Algonquin Park, while others were released on the Bruce Peninsula.

It is, of course, difficult to keep a check on the progress of the animals in the areas which are not enclosed. However, in the case of the Chapleau Preserve the increase has been definite, one Overseer reporting a herd of about 100, while three others report "rapid increase" in the same area. From the Goulais River-Ranger Lake district two different herds of 5 and 10 respectively have been reported by Overseers, while there are two reports of elk in the Nipigon-Onaman District. In the Burwash area, which is enclosed, there has been a large increase, while elk have been seen in five Townships east of the Burwash Preserve and are doubtless an overflow from that area. From the Bruce Peninsula come reports that the animals are increasing, while a small group of three or four wintered in Dufferin County last year. The experiment of introducing the elk to the Province is apparently in a fair way to succeed, and it is hoped that in the course of a few years this noble animal will have established itself as a permanent addition to Ontario's big game resources.

Descriptive Information—"The wapiti", according to an official description published many years ago, "is fittingly described as 'the antlered monarch of the waste', and is one of the largest specimens of the deer tribe, not only is he this, but he is also the most beautiful and stately animal in all the deer family, and justly entitled to hold the first place among the game animals of our Continent". The bull, in addition to being large, has a magnificent spread of horns which sweep gracefully upwards in uniform regularity, and in the larger heads sometimes measure close to six feet in



Elk (Wapiti), Burwash Crown Game Preserve.

length. The horns are ornamented at the base with brow horns, two over each eye, and these often grow to a length of eighteen to twenty-four inches. The hoofs are broad and rounded while the tail is extremely short and depressed on the rump. The general colour in summer is light chestnut red, darkest on neck and legs, while the throat and median ventral line are almost black. The rump is yellowish white with dark bands running down the back of the hind legs. In winter the colours are more grayish.

The usual gait of the wapiti is a long, swinging trot which carries it along at a fair speed. It is less alert than the red deer, and therefore more easily approached by the hunter.

An Appreciation

It is our pleasure this month to record a splendid example of co-operation in the cause of law observance and the conservation of our wild life resources. It happened in the northland, where the wide-open spaces and lack of easy transportation render the work of the protective officers very difficult and facilitate the depredations of the law-breaker. Emil Fahlen, Luke O'Connor, Rex Tolton and Stanley Jones are licensed guides at the camp of Mr. M. N. Dalseg of Emo. Early last month a party of five American tourists, including, we are told, two jurists, whose respect for law should have been a predominant characteristic, arrived by prior arrangement, at Mr. Dalseg's camp. To get there they flew to Winnipeg, taxied to Kenora and completed the journey to the camp by another plane. We mention these details to show that the visitors were lavish in their expenditures to attain their object, and that the guides might with reasonable assurance have looked forward to remunerative employment. It appears, however, that the visitors wanted to hunt, and so they requested the guides to make the necessary arrangements. On being informed that there was still a close season on game, and that hunting was therefore illegal, they suggested to the guides and the manager that their time was limited, and, besides, "no Game Warden would be away up there to check on their activities". The guides, however, were adamant, and refused to guide them or allow them to do any hunting, intimating that if they did they themselves would report them. The visitors were indignant and, in high dudgeon, immediately ordered a plane and flew out of the camp, and, we hope, out of the country. The net result was, of course, that the proprietor lost considerable revenue, and the guides work, wages and probably gratuities.

The ethical standards of these guides is particularly worthy of commendation, as is also the spirit of the proprietor, who, according to our report, "is absolutely in agreement with the guides in their action". To each of them there was a principle at stake, the principle of law observance, which is vital to the tourist business. And so we congratulate these gentlemen of the north on their excellent co-operation in preventing abuses and maintaining respect for the law.

The story we have just related presents the opportunity to emphasize once more the very great responsibility which devolves upon guides to see that there is complete law observance on the part of every person with whom they are associated or do business. The licensed guide is a privileged person whose stock in trade, apart from the angle of transportation, is his knowledge of the outdoors and his ability to satisfy the demands of his employer for the type of recreation for which fish and game provide the incentive. Obviously therefore, it is in his own interests to see that the efforts of the Department to maintain a plentiful supply of these resources are not nullified by improper use. This is a moral duty devolving upon the guide; it is also the best insurance he can buy against unemployment; and in addition it is part of the conditions under which a license has been issued to him.

Sportsmen and Sportsmen's Associations throughout the Province are conducting an intensive educational campaign to acquaint the public with the necessity for conserving the fish and game of the Province both from an economic and recreational standpoint. The protection of these resources, in so far as the public is concerned, is a matter of law observance. These regulations provide not only for the wise use of a public heritage, but also for an equitable distribution of the resources and assurance of perpetuation through natural and artificial means. The thousands of guides scattered throughout the Province represent an army of potential Game Wardens whose livelihood probably depends upon good fishing and hunting, and whose co-operation to that end is of the utmost importance. Unfortunately, there are many so employed who, for present gain are willing to close their eyes to certain abuses which, if general, would result in serious depletion of the resources which make their calling possible and inevitably bring financial loss to themselves. The guide who is not zealous in seeing that his employers conform to the regulations is neither a good guide, nor a shrewd businessman.

The measure of success which prevails in the work of conservation will, to a large extent, govern the future of the guiding industry, and provide some assurance for the future for those who are thus employed.

Hopeful Signs

There are many factors at work to which we might assign credit for the change which is evident in the attitude of many of those who fish and hunt, towards observance of the laws which govern their sport. Education, publicity, higher ethical standards, and the influence of well directed, organized effort, have all played their part, but another factor has come to our attention which in the past we have probably overlooked; it is the still small voice of conscience spurred into renewed activity through a sudden attack of religious fervor. Many letters have come to the Department during the past year from individuals who, under the spell of spiritual

emotion have found it desirable to make a confession of guilt in order to clear their consciences. For example, this letter from a lad is both inspiring and pathetic. It reads: "The following is a confession I feel led to make because of the desire I have to be right with the Lord, and also to have a conscience void of offence toward God and man, and I hereby acknowledge this violation of the law. During the summer of 1937 I shot a partridge out of season, and to get a clear conscience before God I am willing to pay any fine required by the law, or to make any adjustment necessary for your satisfaction. However, because I am a poor boy with a very small income, and furthermore because I have a few other adjustments to make for conscience sake, I may not be able to meet your requirements at once, but as summer opens with work I will do so at my first opportunity." Contrary to the general opinion that Departments of Government are soul-less institutions we hasten to add that the reply contained an appreciation of his frankness, complete forgiveness, and a kindly expressed hope that he would continue through life to travel the path of moral rectitude.

Then there is the laboriously written, grammatically crude, but obviously sincere letter from another citizen who is also planning to live straight in the future. He confesses to the use of traps and hunting without the necessary licenses, and, evidently taxing his memory to remember all his sins of omission and commission, adds in his own quaint phraseology, "I use to fish I guess were I should not have but I am sorrie I did", and as an after-thought, "If there is anything else I suppose yous would forgive me anyway." Well, that might be taking a great deal for granted, but we certainly would not place any insurmountable barriers in the way of a man who was trying to lead a better life.

Three or four years ago, and about a month after the close of the pheasant season, the writer of another letter looked out of the window and saw a cock pheasant walking along his drive-way. The temptation to shoot was too strong, so the pheasant was quickly eliminated. However, he, too, has seen the folly of his act, and so he writes: "I sincerely ask your forgiveness, and if there is a fine I'm willing to pay, but never expect to shoot another pheasant out of season". We are quite sure this gentleman is now a good conservationist and hope that he will exert his influence to convince others that self-respect and respect for the law are synonymous terms.

Then there is another letter from a man who, while living in Northern Ontario accepted deer from someone who had shot them out of season. In addition he confesses to having shot a number of partridge out of season, while not having a hunting license. "Due," he adds, "to a changed life and its obligations placed upon me to God and man I make the above statement. The influence of the 'Oxford Group' has meant much in making me realize the necessity of Divine laws governing all human actions."

We relate these experiences for the lessons they contain and the guiding principles which inspired their admission. Probably many of us would

bow our heads in shame if we measured our own standard of conduct with the same yard-stick. If every citizen of the Province would realize that law observance is fundamental not only to a clear conscience but to good citizenship, then, in so far as the Game and Fisheries Department is concerned, few enforcement officers would be necessary, and the conservation of our wild life natural resources would be assured.

Sale of Confiscated Articles

As we write, the annual sale of confiscated equipment is in progress, and large numbers of people are inspecting and filing bids on one of the largest assortments of guns, fishing tackle, etc., the Department has offered for several years. Those who have any doubts as to the efficiency of the work which is being done to curb law breaking, or the need for eternal vigilance to protect a common heritage, would do well to arrange to visit one of these sales and, in viewing the multiplicity of weapons seized for illegal use, read the story of why conservation is necessary for the perpetuation of wild life. The rows of firearms stacked so menacingly around the room remind us forcibly that their late owners failed to play the game, and in doing so not only broke the law but menaced the rights of others. The weapons include almost every make and calibre of gun, from the toy .22 to the deadly automatic and the modern "pump". Each of them has a story of its own, a story of deliberate law breaking and swift retribution.

We were particularly intrigued by the ancient and decrepit models, because it was difficult to imagine them being put to practical use in these days of super-efficient, high-power firearms. There was, for example, that muzzle loading shotgun which must have been ancient when the passenger pigeon disappeared mysteriously. It was the worse for wear, crude, by comparison, and distinctly a relic. One might easily weave a romance around its history, but the story of its seizure is commonplace, if perchance somewhat pathetic. It was the opening day of the duck season last year, which to the nimrod is just as important an event as the 1st of May is to the angler, and the urge to go hunting gripped a certain young man. He procured the ancient gun, how, where or when unknown, and proceeded to lie in wait for the early morning flight in a rowboat on a certain river. An alert game warden found him there at 5.30 a.m. with the barrel of the gun heavily loaded and quite prepared to prove himself a skilled hunter. Unfortunately he had overlooked the formality of a license, so both the youthful nimrod and the ducks were spared some exciting moments!

Sandwiched in between some modern rapid fire rifles was an ancient 44-40 Winchester. According to the date on its stock it was about one year old at the time of Confederation. That signifies that it had passed the "three-score year and ten" mark, and its general appearance showed that, while the years had dealt gently with it, it was out of place in a world of streamlined equipment and swing music. No doubt but that its original

owner prized it for what it was. Unfortunately it fell into the hands of one lacking in sentiment and careless of the law, for both were discovered in the bush a few days prior to the opening of the deer season without the authority of any license. And now, hoary with age, and heavy in girth with the solidity of most ancient equipment, it lies exposed to the ridicule of those who see in it only a relic of the past. Alas, "Time marches on!"

There were others of ancient vintage which attracted our attention, principally because they lacked the refinements of the modern firearm, or because they conjured up memories which are probably better forgotten. That Ross military rifle, for example, was a vivid reminder that we once had a similar weapon presented to us by a munificent Government and a grateful people for services rendered, or probably it was to render service. In any case we cared for it lovingly for many months, even carried it with us to "foreign parts", and it served us well until one black day when, by an unfortunate chance, we came into contact with an irresistible force, or something of that nature, which so upset us that we tossed the gun into a ditch and left it there. Its counterpart, which we were now viewing, had a dejected appearance, for it had originally been intended to protect the rights of the people, but with the connivance of its owner, it had turned traitor and been condemned to pay the penalty of public scorn.

While we were still thinking of the Ross we had ditched, we happened upon another military-looking rifle which had a more or less familiar appearance. Yes, it was a German Mauser, dated 1914, and of course both the name and the date were black pages in the book of memory. Perhaps this very rifle had . . . no, it couldn't be—there were millions like it and the odds were too great. Well, it was still an outlaw and an outcast, because its late owner had again used it for illegal purposes.

Once more there was a long line of those efficient little nomads, the .22. They ran the gamut of make and style, from the cheap little toy to the high-powered repeater. Most of them were in good shape, but there were a few whose general appearance showed a lack of care. One had its stock cracked, but was sheathed with tin. Another had a split barrel, but it was solidly drawn together with six bands spaced at intervals and fastened with bolts and nuts. Truly, the resources of the boy are unlimited; or was it a boy who fixed it?

Altogether, it was an imposing arsenal, and we were glad the officer in charge had carefully gone over every article and made sure that no semblance of danger remained, for bolts were rattling, triggers clicking and guns pointing in all directions, as prospective buyers put them through their paces and inspected their "innards".

In addition to the firearms there was a miscellaneous collection of fishing rods, reels, lines, baits, minnow pails, axes, flashlights, lanterns, haversacks and traps. As showing the extent of the illegal destruction which takes

place and as a pleasing commentary on the work of the protective officers, we would add that there were some 940 traps in the various lots offered.

The following is a summary of the confiscated articles offered at this sale. Shotguns 67, rifles 45, .22 rifles 106, fishing poles 39, miscellaneous items 34, traps 940. In addition there were about 59 guns and rifles placed in the sale by the Ontario Provincial Police, and confiscated for breaches of other than the Game and Fisheries Act. When it is remembered that in almost every case a fine or alternative gaol sentence was imposed, in addition to the loss occasioned by the confiscation of equipment, it should be a stern warning that "the way of the transgressor is hard". He who fails to play the game is neither good sportsman nor congenial companion!

\$16,395 Fine or Three Months in Jail for Breaking Ontario Game Laws

Last year Ontario served notice on those allegedly trapping illegally when they imposed one of the heaviest fines in the history of the Province on the group of law-breakers seized on the Ox-Tongue River in Algonquin Park.

Again this year on July 26th, Jacob Isaac Glick was fined, in Sudbury, \$16,395, on 23 charges of illegally trafficking in and possessing beaver pelts and other furs. In default of payment the Sudbury fur dealer, found guilty by Magistrate Willard Cooper, must serve two years and six months less one day in reformatory. In addition to the fine 444 beaver skins, 10 otter, 7 marten, 1 fisher, 2 mink, 2 cross foxes and 31 muskrat were confiscated by the Department of Game and Fisheries.

Lovers of wildlife and workers in the cause of conservation in Ontario have every reason to be proud of the zeal with which the Department of Game and Fisheries pursue those who defy their laws . . . and even greater pride in the success of their law enforcement machinery.

—(*From Hunting and Fishing in Canada.*)



ONTARIO

Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

November
1938

HON. H. C. NIXON,
Minister

D. J. TAYLOR,
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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FOREWORD

HALF a century ago the fish and game situation was in a deplorable state. There were few laws and little effort was made to control.

It was an era of exploitation and extravagance in which the future had no place. Under the mistaken idea that the resources were inexhaustible, for Nature had been bountiful, men took unwarrantably and destroyed without due regard for the consequences. Limits were extremely generous and, to add to the general debacle, poaching for commercial purposes was rife. As is natural when excesses become commonplace, there was a sudden awakening to the fact that a valuable asset was being dissipated; that unless steps were immediately taken to effect a larger measure of protection and control perpetuation would be a matter of extreme difficulty, for the scheme of Nature, however generous, cannot be indiscriminately interfered with without dire results. A Commission was appointed to investigate the situation and as a result of its revelations and recommendations a new era of conservation was begun and the curtain rung down on a period of irresponsible license.

Progress since then has been slow—for the process of tearing down is usually easier than that of rebuilding—but it is safe to say that development along properly established conservational lines has been progressive to a most satisfactory degree. This development has been materially advanced by an ever-increasing interest and co-operation on the part of sportsmen, conservationists, and the public generally in all that pertains to the protection and rehabilitation of our wild life resources, and a determination by those who administer as well as those whose interests they control, that policies and regulations must be such as will prevent waste, and wherever possible restore the more valuable species to a maximum abundance consistent with the conditions which have marked the progress of our modern civilization.

There is a duty imposed on every sportsman in this new era of proper control and wise use. It is defined as "playing the game fairly", which implies a due regard for the rules which govern. This is the test of true sportsmanship and the best possible contribution the individual can make to the conservation of our wild life heritage.

The recent experiment in controlled areas for hunting, particularly in regard to pheasants, received a great deal of publicity—photographic, dramatic and otherwise—prior to and during the open season. The pheasant front had never been quite so extended before, therefore certain people became somewhat jittery and formed the idea that massed battalions of “rough-necked” sportsmen would form the attacking forces and probably lay waste the countryside in their eagerness to destroy the “ring necked” invader. “The tumult and the shouting” having ceased, and the attacking forces having retired from the field leaving the survivors in undisputed possession of the trenches, it is now possible to analyze the engagement, approximate the casualties and discover how many bridges were crossed unnecessarily or blown up without just cause!

The idea behind the establishment of the various regulated areas has frequently been discussed in the Bulletin, so no attempt will be made to elaborate on this phase of the matter. Some fifty townships were involved and it should be noted that each of these townships was set aside as a regulated area at the request of the municipal council concerned. The regulations had been carefully explained to the various authorities so that in each case the step was considered in the interest of the municipality, and absolutely no pressure was exerted by the Department. In return for a larger measure of protection to private property than had ever been possible before, through a system of control and identification by means of special licenses, the farmers were expected to open their lands to sportsmen for a brief pheasant season of two or three days. All other general hunting, with the exception of duck hunting, is controlled by the Township Council or other controlling organization but subject to the Game and Fisheries Laws. Of course it was immediately recognized that while the municipal council might request the Department to proceed with the scheme it had no authority to compel a farmer to open his lands to the public. Most farmers, however, never have objected to the decent sportsman crossing their lands in pursuit of game, because it is possible to do so without in any way destroying property, and the proposed plan would afford them more protection against the irresponsible hunter. Those who did not care to permit hunting were assured that if they posted signs advising the public that the property was closed to hunting these signs would be respected. It should be noted in this connection that the Department has no intention of allowing the regulated townships to develop into a multiplicity of private preserves with some shooting areas sandwiched in between. The success of the scheme is based on the co-operation of sportsman and landowner, and where such is lacking it fails in its purpose. Therefore, should the number of privately posted lands in any regulated township become too numerous, it will be necessary to withdraw the special regulations as applied to that area.

In each of the Townships set aside the pheasant was already established in reasonable numbers, but in order that there might be sufficient birds to

justify an open season, the Department distributed within the regulated areas close to 20,000 pheasants in such proportions as the size of the area warranted. Here it should be noted that these birds were raised or purchased for the purpose of providing a shoot, by means of funds supplied by the sportsman himself in the form of licenses of one kind and another. The pheasants released in each Township, added to the existing natural stock, created a supply sufficient to warrant an open season and give the hunter reasonable assurance of good sport.

For the benefit of those who may be under the impression that such extensive shooting would probably result in near extinction of the species it is pointed out that under the conditions involved the birds should become more numerous than ever before. To appreciate this contention it is necessary to remember that the pheasants released by the Department were in almost equal proportions in so far as sex is concerned. During the open season only cock birds were included in the bag limit, which left the hen birds, amounting to fifty per cent of the additional stocking, for breeding purposes. The pheasant is a polygamous bird, and sufficient cock birds would undoubtedly escape the guns of the hunters to take care of the reproduction of the species. For this reason the number of birds in the areas should be considerably increased rather than diminished after a shoot. This expectation was fully justified in the township areas which had an open season last year. Mr. L. L. Snyder, curator of birds, at the Royal Ontario Museum, is quoted in the *Toronto Star Weekly* as remarking that "Rural progress, not the guns of the sportsmen, is the major enemy of pheasants and other wild creatures".

The pheasant is a prolific breeder, each nest consisting of from fifteen to twenty or more eggs, and two hatches per year being quite common. The average number of eggs collected from the breeding stock on the Department's Bird Farm is about 35 per bird. Obviously, therefore, if suitable habitat is available the stock will replenish itself, despite the toll of the hunter during a brief open season.

It is estimated that approximately 20,000 hunters took part in the recent pheasant shoot. A rough survey of the total acreage open to the hunter in the Regulated Townships approximates it at well over 100 acres per hunter. Obviously, therefore, there need have been no congestion, and as a matter of fact there was none. On the first day of the shoot the writer made a personal survey in one of the most popular townships, where all available licenses had been sold early, and where the total allotment was greater than for any other area. The result was astonishing. Instead of congestion and slaughter, it was difficult to realize that there were hundreds of hunters searching the area for birds, which on this occasion proved to be very elusive. Here and there on the various sideroads one occasionally found one or more cars parked, and closer search might have revealed the occupants combing a field or nearby bush. Frequently, one heard a

shot or a succession of shots, but this was expected. At one point we came across two hunters; one was sneaking along the fringe of a bush the other standing in the ditch by the side of the road. "How's the hunting?" we enquired. "There are plenty of birds," said the man in the ditch, "I've had a chance to shoot five cocks, but all of them escaped me. Guess I'm a poor shot, but at least I'm having lots of fun!" A little further on we stopped to watch a hunter scouring a field. We were interested because we had observed the farmer driving a team of horses in the general direction of the hunter and we were anxious to see if he registered any objection to the presence of the stranger on his property. They met and conversed for some time, obviously about the hunt, for the farmer was pointing out the likely places to the hunter while the latter finally started off in the general direction indicated, which was not off the property.

The birds were apparently lying low, and refusing to make a move until the hunter was almost on top of them. We noticed a nice big cock pheasant emerge from under a rail fence and run along the outside of the hedgerow for a considerable distance. Instead of strutting, however, in all the glory of his gay plumage, he was hugging the ground, hiding in the long grass with his head and tail both down. It was evident that the hunter with a good dog had a big advantage when it came to finding the birds, for quite obviously most of the men were doing more hunting than shooting, and yet this particular township had an excellent hatch from the previous season and had been well stocked with live birds. Because of the mild weather and the abundance of vegetation, which provided excellent cover, the birds would not flush, until the hunter was almost on top of them, so a great many were never disturbed. From our observations it was evident that the hunt was being carried out quite orderly and with the good will of the residents of the Township. The total casualties to the defending forces were small.

Reports have now been received from most of the Townships concerned and the results are extremely gratifying. At the outset, it is apparent that there is almost unanimous agreement that the hunters who took part in the shoot conducted themselves for the most part as good sportsmen should. Only seven out of the fifty Townships open, report infractions of the regulations. These numbered ten all told and were for minor irregularities, mostly concerned with the neglect of the hunter to provide himself with a special Township License. This is a record of which the sportsman may justly be proud.

The pleasing feature, however, is that 100 per cent of the responsible authorities who have reported record no complaints of property damage, or personal accidents. The neutral zones which were posted with "no trespass" signs were respected by the hunters, although in many cases it was possible to wander from an open section to a closed area without being aware of the fact. This was seldom done knowingly.

In view of all the facts, as disclosed by these reports and personal observations, it is apparent that regulated shoots can be organized without in any way providing a menace to life or property or seriously interfering with the development of the species concerned. It is essentially a matter of co-operation. In this respect the Department acknowledges with pleasure the splendid co-operation of the municipal authorities, the landowners and the sportsmen in making the shoot an unqualified success from the standpoint of order, good will and recreational pleasure.

One phase of the matter which we have not previously stressed is the economic value of these special shoots. It is, of course, difficult to arrive at any accurate conclusions as to the amount of money spent by hunters during this brief open season, but such items as the following would enter into the general expenditures: equipment, shells, clothing, transportation and licenses. We therefore believe that as a result of these special pheasant shoots, business would benefit to the extent of approximately \$75,000 to \$100,000 including a contribution of \$20,000 to the municipalities in the form of license fees.

Self Protection

The scheme of Nature for the perpetuation of wild life is complex in its ramifications yet simple in its operation. It provides for a chain of development through the interdependence of one species upon another; each in turn being the legitimate prey of a more powerful enemy. However, no species is left defenceless, each being provided with some natural characteristic which affords it a certain amount of protection from predatory foes. The deer has a powerful scent, and under normal conditions is fleet-footed enough to escape from its natural enemy, the wolf. The wolf, on the other hand, is cunning enough to evade all but the most expert trappers or hunters. The speed of the jack rabbit is its best defence, while the fur of the snowshoe turns white during the hunting season to blend with the snows of winter. The crow has a fighting disposition and will immediately call for reinforcements to help drive away its sworn enemy, the owl. Other species of birds have plumage which harmonizes with their surroundings and effectively camouflages them. Inherent in most species of wild life also is an unerring instinct which warns them of approaching danger and how best to protect themselves.

In the Great War, when troops were marching up to the front line under cover of darkness, it was a common experience to have the whole line suddenly halt and remain motionless while rockets, shot up from the enemy lines, were illuminating the landscape. Under such conditions movement was easily detected, but that which was inanimate was hard to distinguish from the general surroundings, particularly at a distance. We were reminded of this fact by an incident related by a member of the staff who had been taking an inventory of the pheasants on the Codrington bird farm. The birds are held in a number of parallel pens, each with a brooder house.

and to facilitate the census taking it was necessary to drive each lot into the house, then count them as they emerged through a small trap door. At the time of the incident the pheasants in the pen receiving attention had all been driven into the house, but those in the pens on either side were outside in their enclosures actively moving around and apparently quite contented. Our informant had just stationed himself where the birds coming out of the trap door could not immediately see him, and would therefore be less nervous, when he noticed the pheasants in all the other pens suddenly become petrified—like a company of troops sharply called to attention. Heads were turned upwards but not a bird moved; it was as if the mechanism had suddenly stopped and left them rigid. The birds which were being chased from the brooder house for the purpose of counting emerged slowly, haltingly, and quite obviously in a state of nervousness. Seeking an explanation, the official glanced all around and then turned his gaze upward. Circling at a fair height, but now at the other end of the field, was a large hawk. Here, undoubtedly, was the reason for the sudden alarm. Natural instinct, the urge to protect themselves, in the same manner as the troops marching to the front line, probably accounted for the concerted action, but how was the alarm spread? Obviously all of the birds did not see the hawk, yet its presence must have been communicated to them in some mysterious manner. Those inside the brooder house could not possibly have seen the enemy, yet they were every bit as disturbed as the pheasants in the pens, and had to be driven outside against their will.

“Balancing Act”

Hannah Lees

Montana is a pretty big and, even now, a pretty wild state, but it used to be even wilder, and there was a place in Montana not so many years ago that was the sportsman's idea of heaven. It was full of mountain lions and deer and elk, and full of nice clear streams that were full of nice plump trout. And the mountain lions lived on the deer and elk, and the deer and elk lived on the willow thickets along the banks of the streams, while the trout frolicked happily in the deep, clear pools and caught flies. And your grandfather, and maybe mine, had a fine time hunting and fishing and generally enjoying the outdoors.

And all this may sound like little nature stories for the kiddies, but just you wait. Pretty soon some of our grandfathers began to worry about the deer that the mountain lions were knocking off.

“If this goes on,” said they, “there won't be any deer and elk left.” So a bounty was put on mountain lions and pretty soon, with no lions to work on them and not enough extra hunters to substitute, as it were, for the lions, the woods quite literally were full of deer and elk and the sportsmen were very, very happy.

But not for long, because now there were so many deer and elk to eat the willow shoots that soon they were all gone. And no willows meant no willow roots. And it was the willow roots, it turned out, that had been holding up the banks of the streams, so the streams began to wash out and get shallow and muddy. And the trout, which liked their water deep and clear—and I don't blame them—went somewhere else to catch their flies.

Meanwhile, the deer and elk, having polished off all the willows, began on any other tree shoots they could find, and when they had polished them off too, there wasn't anything at all for them to eat so they began to get sick and to die. And the hunters and fishermen sat around and sadly wondered what was the matter. They'd only tried to be efficient and helpful. So there's your nature story, but I wouldn't tell it to your children, because they are going to be so much smarter about these things than we are by the time they grow up that they might remember and laugh.

Maybe instead you'd like to hear another one, also a Western. Years ago, before we got around to conquering America, the Western plains were already pretty well settled. There were grass eaters like the gophers and prairie dogs and buffalo—you know, you see them on nickels and in zoos. And there were meat-eaters like coyotes and wolves. And they all got along beautifully. The buffaloes and gophers and prairie dogs kept the prairie grass down, and the wolves and coyotes kept the buffaloes and so on down, and the hard winters and lean pickings kept the wolves and coyotes down, so nothing got out of control, and everybody had enough to eat.

Then our grandfathers came along again, and you probably think you know what happened. Our grandfathers brought their cattle, which had to eat, and our grandfathers had to eat, too. So they ate some of the buffalo and drove the rest away and put their cattle to graze instead. The cattle thrived on prairie grass, and again for a while everything was fine. But with no buffalo for dinner the wolves had to eat something, so, of course, they ate the cattle, and that wouldn't do at all. "We'll wipe out the 'tarnation vermin," said our grandfathers, and they did. But then there was nothing to eat the gophers and their friends, so they got out of control. So again our grandfathers said, and perfectly logically, too, "We'll wipe out the 'tarnation vermin," and, again being strong and smart, they did.

But pretty soon, and I'll bet you were waiting for this, our grandfathers, or maybe it was our fathers by this time, found they weren't going to like that either, because the gophers and prairie dogs, what with burrowing around, had done a nice free job of plowing, and at the same time had done a nice free job of keeping down a tough, nasty weed that was poison to the cattle but ice cream and cake to gophers. So with no gopher plowing, the ground got hard and dry and the sweet grass withered and the

tough weed spread all over, and the cattle began to look peaked and hungry. But you can't go out and shoot poisonous grass and dry grounds, so all our fathers and grandfathers could do was sit around feeling sad and talking about the good old days.

TRESPASSERS NOT ALLOWED

Now, if you can bear it, I'm going to take a quick jump from wolves to robins and tell you why afterward. It's not a bedtime story this time but a simple little fact of Nature. It's about the song the papa robin sings come June while the mamma robin is sitting on those blue eggs. You have probably heard it unless you're the complete thing in city dwellers, and if you haven't you'd better go right out next June and listen, because it's nice. Well, that song that makes us all feel so young and sentimental isn't a song of pride and exuberance at all, naturalists tell me, but a sort of war cry. "Come on to my land," papa robin is saying, "and I'll show you to whom it belongs." And he does. People who watch birds have seen him do it over and over again.

No one acre of ground, you see, can furnish worms and insects for more than just so many robins, and whether they know it by instinct or experience or because their mammas tell them, they do know it, and no robin will ever let another robin build within just so far from his nest. That means only so many robins can build nests and hatch eggs in any given community. The rest have to live and die nestless, and so the robin population manages to stay pretty standard year after year without benefit of wars.

And the point of these three stories and a few others you may read a little further on ought to be pretty obvious, though it's taken us an incredibly long time to find it out, and will probably take us a lot longer to believe. The point is that all the birds and animals and insects, to say nothing of the grass and trees and flowers, have been here so long that they have developed a natural balance that would put any gymnast to shame and is apt to bring things crashing down around our ears when we upset it.

All over the world where life is still wild there are these balancing teams. The affair of the mountain lion, deer and elk, willow thicket, forest stream, brook trout, was a perfect one with the mountain lions, as it were, holding a structure that supported the brook trout. Perfect, that is, till man came along and removed the basic support. The debacle of the western plains was another and more complicated one with the wolves actually being responsible for the support of the cattle by way of the gophers and prairie grass.

The robins, even while they are doing their own little balancing act, are part of another pretty fancy and magical act that naturalists call a food chain, and that I call magic because what happens is that one little

leafy bush, for instance, ends by furnishing food for three or four different and hungry animals. It works this way; insects eat leaves, robins eat the insects, squirrels and weasels and hawks eat the robins. There are dozens of chains like this all over the world and the chief reason they work and keep on working is that practically every living thing except man—who has decided to run things to suit himself and does, when he sticks to his own business, an amazingly good job of it—reproduces with almost incredible over-abundance, reproduces with a big enough margin to keep its own species going and still furnish food for the next higher link in the chain. It must, you see, for if it hadn't it wouldn't be here; it would all have been gobbled up.

—*Courtesy Colliers Weekly.*

Smart Penalties for Law Breakers

Six weeks after the close of the speckled trout season three men, whose sporting instincts are a negligible quantity, were caught by a Game Warden in the Pembroke district returning from a fishing foray with some 288 trout, all under the legal size, in their possession. It created quite a furore in the district because it was generally known that the Department had just completed a programme of re-stocking the streams in the County with thousands of yearling trout. Naturally the decent sportsmen were up in arms and loud in their demands that these unscrupulous gentlemen should be vigorously prosecuted. In due course the poachers were haled into court and three charges laid against each. Convictions were obtained in every case and on all three charges with the result that each of the defendants paid fines and costs totalling \$126.75, or approximately \$380 in all.

This is the third incident of this kind that we have reported, and while the other two were bad enough they pale into insignificance before this latest slaughter. It should now be obvious to the angler, who does not give the matter overmuch thought, that such wanton destruction of under-size fish must inevitably result in nullifying the efforts of the Department to provide good fishing for all. The poacher, confirmed or just casual, is public nuisance No. 1, and as such deserves to be ostracized from the company of all those genial gentlemen who are sportsmen in the best sense of the word. We, therefore, appeal to all sportsmen to take a personal interest in the resources which add so much to their "joy of living", and assume a larger share of personal responsibility for their protection. The protective officers are doing an excellent job and the Department is insisting that the punishment in each case shall be in keeping with the gravity of the offence. Let us all co-operate to end this unnecessary waste, and eliminate the law-breaker from the pleasing environment of field and stream.

Chances Are Costly

The man who is always ready to take a chance, if by so doing there is a possibility that he can outsmart the law and take undue advantage of his fellowman, is ever present with us. One of this type was discovered

on Pelee Island during the recent pheasant shoot. His nonchalant manner when the officer enquired about his bag aroused suspicions and caused a search to be made. The result disclosed a total of 16 hen birds over and above the limit he was entitled to. The bag limit for the two-day shoot on the island was ten birds, including, if desired, two hens. It would seem as if this was a generous quantity, sufficient for the needs of any reasonable individual. In this case the additional hen birds were found in a specially prepared compartment in the back seat. Each of those birds cost the owner \$10, or a total of \$160, in addition to costs of the court, plus an extra \$25 for the return of some personal equipment seized at the same time. Two guns and all of the birds, legal as well as illegal, were confiscated; so the outing proved an expensive affair for this unscrupulous gentleman.

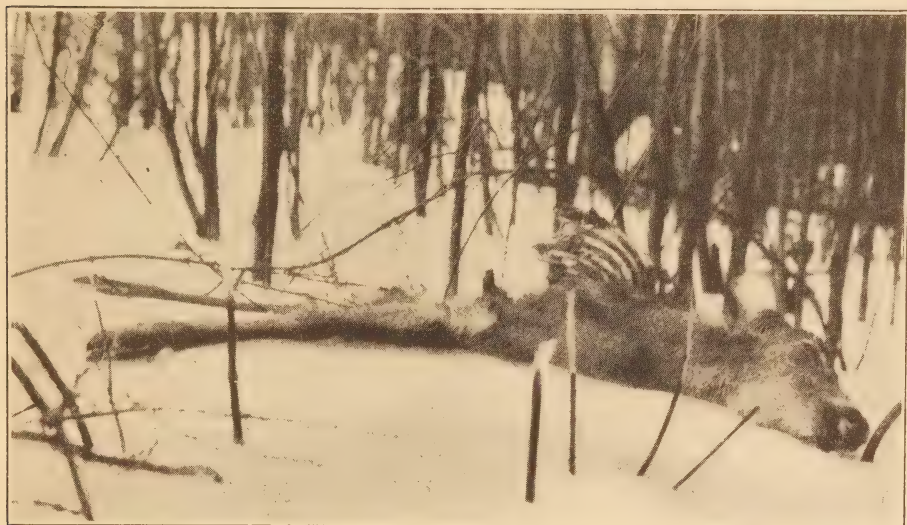
A Wolf Story

"Nature is always consistent though she feigns to contravene her own laws. She keeps her laws, and seems to transcend them. She arms and equips an animal to find its place and living in the earth, and at the same time she arms and equips another animal to destroy it."—*Emerson*.

This thought recalls an experience we had several years ago in the Algoma woods. We were still-hunting for deer, and had but recently separated from our companion in order that between us we might cover both sides of a ravine. Suddenly we heard him whistle, followed by a call to "come on over". It wasn't an urgent call, but we judged there was something of interest behind it—the woods are full of interesting things if one has "ears to hear and eyes to see"—so we joined him. "You see that little clearing beside the birch tree," he began, pointing to a spot about 75 yards away, "well, I could see what I thought was a deer lying on the ground down there, but there was something or somebody moving about over it, yet hidden by the long grass so that I could not make out what it was. For that reason I was afraid to shoot, and besides I didn't know where you were. After watching the spot for about five minutes I whistled softly to see if perhaps it was a human being, but, immediately I did a large wolf leaped up and bounded off into the bush before I had time for a shot. Let's go down and find out what that wolf was doing." Together we made our way to the spot and the sight which met our eyes revealed a tragedy of the wild. Lying on the ground was a newly-killed fawn, mercilessly torn by the fangs of its mortal enemy, the warm blood still oozing from gaping tears in throat and thigh. All around for a considerable distance, the grass was flattened down and plastered with hair, signifying that there had been quite a struggle before the fawn had succumbed.

We visited the spot several times during the next few days in the hope that the wolf might return to finish his meal, but the carcass was not again disturbed during our stay.

The Province of Ontario pays a bounty for every wolf destroyed within the Province, not because the wolf is the only predaceous animal destructive of game, but to serve as a measure of protection to the more valuable deer herds by keeping the depredations of the wolf within reasonable limits.



Remains of a deer killed by wolves.

Concerning Indiscriminate Hunting

It appears necessary to once more remind hunters that the Eagle and Osprey are protected birds under the Game and Fisheries Act. Two or three cases in which eagles have been shot, for no good reason, have been reported to the Department within recent weeks, and wherever possible action has been taken against the responsible persons.

There seems to be an idea in the mind of a great many hunters that the possession of a gun, and a license to use it, are an invitation to wander at will over the countryside and shoot without restraint everything that flashes across their line of vision. In the first place the license is merely an authority establishing the right of the owner to carry a gun for the purpose of hunting, where such hunting is legal. It is not a passport authorizing the licensee to enter upon private lands and must not be considered as such. Necessary consent for such a purpose will seldom be refused by the owner of the land concerned providing the hunter makes his request in the spirit of "privilege" rather than "implied right"!

In the second place any hunting or shooting that takes place under authority of a license must be according to the laws and regulations which govern. Every person, therefore, who goes hunting should be familiar with

the conditions which apply, and until he has informed himself as to these regulations he had much better leave his gun at home. For example, having learned that eagles are protected, it is no excuse to suggest, after having shot one, that you didn't know it was an eagle. Right there is the first essential to safe hunting and good sportsmanship. Never shoot until you know what you are shooting at. You may find it a costly thrill.

Then, too, there is no particular pleasure in indiscriminate killing. Marksmanship can be tested just as effectively by means of a target. A clay saucer sprung from a trap will afford all the thrill of a bird on the wing and provide a keen test of personal prowess, while a well-placed shot in the centre of a stationary target will be ample proof of a keen eye and steady nerve. Why turn aside from the pursuit of legitimate game, for which ample provision is made, to destroy, for no better reason than the urge to kill, those resources which are protected by law? All of which is not intended to discourage hunting, but rather to ensure the maximum of pleasure with the minimum of trouble.

Sixty Years Ago

From a column in the Campbellford Weekly Herald devoted to extracts from the early files of the paper we quote the following: "Sixty years ago. From the Herald, August 29, 1878. A game protective society has been organized in the village, with J. W. Dinwoodie as President, and Stewart Cock as secretary-treasurer."

"A Seymour resident was fined for killing ducks contrary to the law."

It is probable that there is a relationship between the two items. Evidently there was some attempt, even in those days of "unlimited resources" and general lack of enforcement, to keep the law-breaker within reasonable limits. The decent sportsman was becoming appalled by the waste which was being practiced, and had suddenly begun to realize that however unlimited the wild life resources might be they were by no means inexhaustible. And so, sixty years ago, there was a beginning of organized effort on the part of the sportsman to protect his sport and the resources which made it possible.

We wonder if this is the first protective association, and would be interested in hearing from any of our readers who may have information to the contrary.

Return of the Deer to Southern Ontario

The value of conservation measures for the protection of wild life has no better illustration than in the case of the deer herd. Almost half a century ago there was much concern on the part of sportsmen for the future of this noble animal. An official report of that time states: "At one time in the history of Ontario deer were plentiful all over the Province,

but gradually, as the land became cleared, as railroads were built, and settlers came in to take up their abode, the race has been growing smaller and smaller. In many regions where deer were once numerous, large cities are now standing, and the deer have disappeared for ever.

Wolves are also a standing menace to the species, and destroy immense numbers annually.

The multiplication of hunters, the repeating rifle, the barbarous practice of 'yard and crust' hunting, and the forest fires, have also added to the general thinning out, and although it may be that in some of the wilder districts of the Province deer will always be found, there is grave reason to fear that unless prompt measures are taken in the way of preservation and protection the deer will soon be extinct in Ontario."

The report might well have added that the bag limits were altogether too generous. An individual was allowed to take five deer during the season, while parties of three hunting together could bring back twelve.

From 1892 on, however, regulations and restrictions began to tighten; the season was shortened, limits reduced, and complete protection afforded in many areas. In 1905 the administration of wild life was taken out of the hands of a Commission and placed under the control of a department of government known as The Department of Game and Fisheries. Since then the policies of the Department with regard to deer and other wild life have been framed with a view to protection, restoration and reasonable use within proper limitations.

As we write, the deer seasons are not yet over, but reports reaching the Department are to the effect that the herd in the northern section of the Province is more than holding its own despite more intensive hunting than ever before.

However, we are particularly interested for the moment in that part of the report quoted at the beginning of the article which said in part: "In many regions where deer were once numerous, large cities are now standing, and the deer have disappeared for ever"; and, "there is grave reason to fear that unless prompt measures are taken in the way of preservation and protection, the deer will soon be extinct in Ontario".

Quite obviously, the deer have disappeared for ever—except for specimens in zoos—from regions now occupied by large cities, but it is a fact that they have come back in large numbers to the environs and the districts which are the centre of our densest population. Within recent months several of these fleet-footed animals have been seen at different times wandering down the streets of suburban Toronto. The district between Toronto and Hamilton is a more or less populous area, boasting a splendid modern four-lane highway with a continuous stream of traffic over it day and night, yet four deer have been reported struck or killed by automobiles on this speedway during the past week. Niagara Falls is a busy city, with the roar of the cataract continually adding to the din of modern civiliza-

tion; a most unlikely place to find deer, yet on October 28th last a buck was rescued from the Hydro fore-bay at Queenston, this being the second within recent months. Driving along the Lake Shore Highway a short time ago a young lady was almost scared out of her wits when two deer flashed across the road in front of her, while at Bronte three of the species were discovered disporting themselves on the church lawn. In the Canadian Echo of November 10th last is a half column headed "Deer Tales", and reporting three different experiences of motorists with deer on the highway in the Counties of Grey, Bruce and Waterloo. Several months ago, while driving near London, we saw two does standing on the roadway. A photograph in yesterday's morning paper shows an injured deer brought to Toronto by a truck driver, who picked it up on No. 7 Highway. In short, it is amazing the number of people who have been thrilled during the past few years by the sight of deer, either on the roadway or on adjoining lands, and the farmers who report deer on their property are legion.

All this is by way of establishing the fact that suitable measures were taken to protect the disappearing herd and that these measures have been extremely successful. Deer in southern Ontario are more numerous today than they have been for a quarter of a century; in fact, it looks as if it might be necessary to take steps to discourage their development in certain areas in order to lessen the hazards of the public highway.

The measures taken to re-establish the deer in that portion of the Province under discussion were simple. All of the south-western area was closed indefinitely to deer hunting, the bag limit generally was reduced from two to one per season, causing a greater spread from the populous areas; more protective officers were employed to enforce the regulations, and a greater spirit of co-operation became evident as the ideals of conservation began to find favour among sportsmen.

We believe that report of fifty years ago spoke the truth; something had to be done and done quickly in order to prevent ultimate extinction. It is gratifying to note that the challenge was accepted and that a large measure of success has been the reward. Whatever may be the future of the deer in those areas where civilization has made the greatest inroads one thing is certain; the perpetuation and development of our wild life resources can be definitely assured if we will but unite to afford them that measure of protection and proper control which is necessary to our wise use of them.

Ruffed Grouse

This season the hunter had two opportunities of taking Ontario's finest sporting bird, the Ruffed Grouse, or Partridge. The increase in numbers throughout the Province justified an open season, and this was divided into two periods to afford a wider enjoyment of the sport. Sportsmen are more or less familiar with the cycle of abundance and scarcity which appears to be one of the characteristics of the life history of the ruffed grouse. It

is one of those mysterious phenomena of the natural world about which a great deal of scientific research has been made without establishing any very definite conclusions except the well-authenticated fact that the peak of abundance occurs every seven years, with a gradual development to that point, and that from the seventh to the tenth years there is a sudden drop almost to the point of extinction, after which the cycle repeats itself. It is believed that the same disease which periodically affects the rabbit also carries off the Partridge. This is one of the primary reasons why open seasons on Partridge are not more numerous.

The ruffed grouse is a native of North America and in no sense migratory unless when bush fires or scarcity of food force it to move a few miles to new habitat. It is very partial to rough, hilly country, the banks of streams, or, in fact, any bush area. The Partridge is a cunning, wary bird, fast on the wing and hard to shoot. When flushed it usually flies in a straight line, but seldom for more than a few hundred yards, when it generally alights on the ground. The sportsman stalking it will find that it frequently lies very close to the ground and allows him to get within a few feet of it, then rises suddenly with a loud whirring noise, enough to disconcert the steadiest shot, and if the hunter is not fast in his movements he will almost invariably find that his bird has immediately placed a tree or a bush between them, preventing an effective shot. The sudden startling noise which it makes when flushed, and its speed and instinct for protecting itself while in flight, make its taking, under these conditions, a real sporting proposition.

The Ruffed Grouse is a more or less polygamous bird and the male is quite an actor when it comes to love-making. During this reproductive season he mounts a rock or a fallen log in a quiet part of the woods, and there, for the benefit of the female he assumes an erect attitude, expands his tail and struts up and down in a very pompous manner. Then he appears to inflate his whole body and, bringing his wings forward slowly at first, beats the air with them in a rapid vibratory motion which produces a sound closely resembling the reverberations caused by distant thunder. Motion pictures have been taken of this action and show the beating of the wings to be so fast as to be almost invisible. For many years the question as to how the bird produced the peculiar sounds was a disputed one, but it is now generally accepted that they are the result of the actions described above.

The female makes her nest on the ground, usually beside a log, in a quiet section of the woods, and lays from eight to twelve eggs. The young are born in about four weeks and immediately after hatching are ready to follow their mother in search of food—ants' eggs or small larva. The mother is devoted to her young and displays a great deal of courage in defending them. The chicks are quick to learn and display an astonishing instinct for self-preservation. When an enemy approaches the mother will

exert all her wiles to beat it off, and while she is busy distracting attention from her brood, the little ones instantly disappear. The danger past, the mother utters a few clucks and from under leaves, chips, stumps, or whatever is most available the youngsters make their appearance and once more join the happy family circle.

Food of the Partridge consists of the buds of several trees, of which the birch is one of the most popular. They also feed largely on berries and occasionally on roots.

Like the Pheasant and other game birds, the ability of the Ruffed Grouse to re-establish itself in an area—under reasonable protection from enemies, normal weather conditions and good nesting cover—is remarkable. The natural reproduction of, say, ten young per family is not large, but when during the following season these birds have brought forth their broods and this process is repeated for two or three years, the abundance of birds will be quite marked.

The determination of sex in Ruffed Grouse is a very difficult matter even for the most experienced sportsman. Experiments have shown that in birds of the same age raised under similar conditions, the female tends to be somewhat smaller, of a slightly duller colour and with shorter ruffs and tail than the male. However, it will be appreciated that birds shot in the natural environment do not conform with the conditions mentioned and therefore the knowledge is more or less useless for any practical purpose. Actually, to positively identify the sex of birds taken in the field it is necessary to resort to dissection. Because of this fact, the game laws do not call for differentiation during an open season.

As we mentioned at the beginning, the Ruffed Grouse is an excellent game bird and, taken on the wing will test the skill of the most experienced hunter. Its flesh is esteemed a great delicacy and has a very pleasing flavour.



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DEPARTMENT OF

GAME AND FISHERIES

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HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Time Marches On

THAT hoary, old, bewhiskered but legendary gentleman known as Father Time is once more preparing to lay aside his scythe and disappear for ever from the calendar period known as 1938. We bid him goodbye with mixed feelings; relief because he is going—for his reign in the world of men has been tragic in the extreme—and a warm surge of anticipatory hope that, ere it becomes time for his successor to make his exit, the ever-darkening clouds of international distrust may have dissipated and the sad story of “man’s inhumanity to man”, written in blood and tears, may have reached the last chapter in a drama of human pathos never excelled for its brutality. These are the thoughts which crowd our mind as we prepare to bid the old year farewell, and usher in the new, and however much we may evade the facts they stand out like a mirage in the desert, and with as much substance in moral decency.

As sportsmen, however, we come to the end of another year with happy memories of the period, and a great deal of pride in accomplishment. It has been replete with countless new experiences in the great outdoors; where the environment is always wholesome, unless we choose to make it otherwise, and where health and relaxation are to be found in the pleasing pursuits of angling and hunting. The memories we have are personal experiences, yet in these days of rapid and easy transportation, they are likely to be duplicated by thousands of others. The boy with his inexpensive pole and can of worms; the novice, lacking experience but intensely keen; and the expert, who knows the sport from every angle, all have available to them in the lakes and streams of the Province the opportunity for endless joy and numberless thrills such as appeal to every red-blooded man. And when the mid-year activities of summer give place to the more prosaic pursuits of the fall there opens up to the sportsman a new vista, a different environment, so he lays aside his fishing equipment, and with gun in hand takes advantage of the prescribed open seasons for game to explore the recreational possibilities of forest and field.

Looking back in retrospect over the year which is passing, the Ontario sportsman will doubtless agree that his lot has been cast in pleasant places. The physical and geographical set-up of the country is such that its sporting facilities are unsurpassed, and Nature has been extremely bountiful

in her distribution of wild life resources and her provision for their perpetuation. Every time we look at a detailed map of the Province we marvel anew at the multiplicity of lakes and streams which make up its physical features from boundary to boundary, and which immediately suggest unlimited fishing possibilities. And, by the same token, the extensive undeveloped wild lands which form such a large area of the surface simply intrigue us with their potentialities for outdoor thrills. These dreams are not myths, as countless thousands of sportsmen can affirm. The water areas are for the most part rich in aquatic life and capable of providing for all our economic needs and recreational pleasures, under conditions which ensure a maximum of freedom and a minimum of irritation. In forest and field too, there is to be found a variety and abundance of game which ought to satisfy the demands of the most exacting. But the pleasing feature of this wild life heritage is the fact that the sport which it makes possible is available to all; a fact which necessarily implies public ownership of vast areas of land and water and a large measure of co-operation to afford the necessary facilities where private property is involved. To appreciate the real worth of such a situation one must be familiar with conditions in such old-world countries as are densely populated and over-ridden with feudal or hereditary ownership of the only available game lands.

But the sportsman has a great deal more to be thankful for as he looks back over the closing year. While the peoples of other lands were feverishly digging trenches to protect themselves against threatened destruction, he was digging worms in anticipation of happy hours by lake or stream; while others were excitedly trying on gas masks to be prepared for attacks from the air, he was masking himself in a head-net to forestall attacks by mosquitoes—making sure that it had a convenient hole for his favourite pipe; as men battled with each other and destruction rained from the clouds in other parts of the world, he was battling the wily trout, the gamey bass, or the fighting muskey; and when he sallied forth with his gun it was for sport, and not for the destruction of human lives. Such a situation invites us to pause and recognize anew the extent of our good fortune.

In addition, however, the sportsman will realize that in most cases where he has enjoyed good fishing or hunting it has been the result of the conservation measures which are in force to ensure proper control of the resources. These resources, as we have learned through past experience, are not inexhaustible, and must be carefully administered in order to satisfy the demand. This implies not only regulations, but an extensive and comprehensive scheme of propagation and re-stocking. If our pensive sportsman has taken any particular interest in the work of the Department he will be aware of the fact that an intensive programme of fish-culture has been carried on during the year, and that the waters of the Province have been re-stocked with millions of game fish including, to date, over 2,063,000 yearling and adult speckled trout. He will also know that nearly 20,000 live pheasants were released in suitable environment throughout the south-

western part of the Province and provided a new experience for thousands of hunters.

No doubt, too, he is familiar with the fact that public opinion is becoming molded along conservational lines, and that the sportsman who does not place a proper value on his opportunities and privileges, or is given to waste, is not in tune with the ideals which should apply. As he looks back over the year which is ebbing and remembers the many happy days which he has spent in the pleasing environment of the outdoors, in pursuit of fish or game, let him ask himself if he has played the game, by self-restraint and an honest compliance with the regulations. An ample supply of fish and game for this and future generations is the dream of all good sportsmen, and this is only possible through the co-operation of every individual or agency interested in participation in, or promotion of, the recreational enjoyment for which wild life provides the lure.

The Evolution of Game Management in Ontario

The history of game management in Ontario is an interesting story of progressive development, from the early days of more or less excessive destruction for private and commercial use to the present era of wise control effectively enforced. The early regulatory laws were quite sound considering the available knowledge, and the fact that they were framed to meet a situation which apparently merely required some control. The earliest law as applied to what is now Ontario was enacted in 1821. It showed a pressing need for protecting deer and established a close season between January 10 and July 1. In other words there was an open season extending from July 1 to January 10 of the following year, and apparently no bag limits.

Eighteen years later, i.e., in 1839, another act was passed which was even more comprehensive, for in addition to establishing shorter open seasons for all classes of game it provided that no person "shall hunt or shoot, or go out with a gun in quest of any deer or other wild animal or wild fowl on the Lord's Day (commonly called Sunday) within this Province". The season for deer was changed to open August 1st and close February 1st. "Wild turkey, prairie hen or grouse; commonly called pheasant or partridge; or any quail or wood-cock", could legally be taken from September 1st to March 1st.

Skipping lightly over the next twenty years we find that when the Statutes of Upper Canada were consolidated in 1859 there were certain modifications in open seasons, but limits were apparently unrestricted. The duck season extended from August 1st to April 15th, which ought to have been extensive enough to suit the most exacting. A wolf bounty of six dollars was in effect at this time.

By an Act of 1868, enacted by the Province of Ontario, revisions were again made in the open seasons for game. The deer, elk, moose and caribou season was now shortened to three months, namely from September 1st to

December 1st, and wild turkey, partridge and hare season from September 1st to January 1st, and the duck season September 1st to March 1st. The sale of game was illegal after fourteen days from the close of the respective seasons, and the taking or destruction of the eggs of game birds prohibited. The old monetary penalties in pounds and shillings had now given place to dollars and were established as \$2 to \$25 for each head of game. A definite trapping season for beaver, muskrat, mink, sable, otter and fisher was established from November 15th to May 1st.

It is apparent that during all these years there was a general tightening up of the regulations, but little or no effort to effectively enforce the laws. Prosecutions depended for the most part on "informers", who were given half of the fine when a penalty was imposed. There was no attempt to conserve the resources by limiting the take, while the future was left to take care of itself through the process of natural propagation. At this time the economic possibilities of wild life had not been envisioned except in so far as profit could be made out of market sale. It was not surprising, therefore, that conditions became so bad as to arouse anxiety among sportsmen and others as to the future of the resources. This anxiety culminated in the appointment of a Commission in 1890 to investigate conditions and submit recommendations. This Commission tackled the job in a very far-reaching manner. It prepared questionnaires on every phase of wild life, including fish, and sent them to sportsmen and all other interested persons throughout the Province with a request that the questions be answered and the forms returned for tabulation. In addition it travelled the country, and in public and private received the personal views of hundreds of active sportsmen who appeared before it to give evidence based on their own knowledge and observations.

At the time the Commission began its work the deer season had been reduced from the original 6 1/3 months in vogue in 1821 to a period of five weeks, namely from October 15th to November 20th, while the other open seasons were still quite extensive. The big game situation appeared to be the most critical, for by this time we find there was a bag limit on deer and a close season for seven years on moose, elk, reindeer and caribou. The deer limits were still generous, but at least there was a limitation, and the policy of conservation, or control, had begun. At this time free deer hunting privileges were extended to residents of Ontario and Quebec, while non-residents could obtain a license for a fee of \$10 per year.

The report of this Commission was a sweeping and outspoken indictment of conditions and a lengthy list of recommendations intended to prevent abuses, protect the resources, and generally establish administration and enforcement on a more effective basis.

Immediately after the report of the Commission had been presented an Act to amend the laws was passed in 1892. This Act embodied a great many of the Commission's recommendations. The first amendment was

one reducing the open season for deer to a fifteen-day period from November first to fifteenth, and continuing the close season on moose, elk and caribou. In keeping with their efforts to conserve the herd the bag limit was reduced to two and the taking of fawns was prohibited. In an effort to protect birds which might be enjoying a close season while the season on others was still open, the open dates for upland game birds and ducks were unified and established between September 1st and December 15th. Apparently wild turkeys were now on the way out, for their shooting was prohibited for a period of years. Another important enactment was the complete prohibition of purchase or sale of quail, snipe, wild turkey, woodcock or partridge. The commercial sale of these birds had been roundly condemned by the Commission after an exposé of the ruthless and illegal methods used to obtain them.

It will be recalled that up to this date non-residents of the Province—except residents of Quebec—could obtain a deer license for \$10. However, the Commission had suggested the employment of a permanent force of Provincial Game and Fish Wardens—heretofore the municipalities had the authority to appoint and pay a warden, but the privilege was seldom exercised—and as a means of assisting in the maintenance of such a force, non-residents were now to be entitled to hunt within the Province provided they were in possession of a license which might be obtained for a fee of \$25. By the same section it was enacted that any non-resident hunting within the Province shall “on request by any person whomsoever within the Province, at all times, and as often as requested, produce and show to the person making the request, such license; and if he shall fail or refuse to do so he shall forfeit any such license he may possess . . . and be deemed to have violated the provisions of this section”. That had the effect of subjecting the non-resident to the scrutiny of every person within the Province, which would not be conducive to good will, however effective it might be as a check on illegal hunting.

By this Act also a Board of Fish and Game Commissioners was created to consist of five members appointed by the Lieutenant-Governor in Council for the term of three years, all of whom, except the Secretary, who might be a member of the Board, were to serve without compensation, “either direct or indirect, other than actual disbursements”. The duties of the Board were defined and upon its recommendation the Lieutenant-Governor in Council might appoint a “chief game and fish warden, who shall act as secretary and business agent of said Board, and may also appoint other game and fish wardens not exceeding four in number. The compensation of the secretary and the said chief warden and the other wardens shall be fixed by the Lieutenant-Governor in Council and shall be paid out of the license fees and fines collected under the provisions of this Act and such moneys as may be appropriated for the purpose by the Legislative Assembly of the Province, and shall not, exclusive of travelling expenses, exceed, in the whole, the sum of \$1,200”.

It is quite obvious that even yet the economic possibilities of the resources had not been grasped, but the era of unrestrained killing, unnecessary waste and unscrupulous practices was rapidly passing, and a period of sane control was emerging from the chaos.

So far we have said little or nothing about fish, but the general condition was on a par with that of game. However, it should be stated that there was a division of control over many waters between the Dominion and the Province, and as the laws varied considerably a certain amount of confusion existed. In its report the Commission of 1890 minced no words in describing the situation; the following are extracts: "The laws are not generally enforced, and although it appears that a few of the Fishery Inspectors endeavour to discharge their duties faithfully, it is equally apparent that the majority of them take little, if any pains, to prohibit illegal fishing and to protect the valuable stock entrusted to their care." "The extent to which fishing is carried on in the close seasons is alarming, and the exposure of fish in the markets of the larger towns and cities of the Province during the close seasons is open and defiant." "The extent to which netting is carried on is also inconceivable, and the spawning grounds are stripped year after year, until in many places where fish abounded formerly in large numbers, there is no yield now at all." "The evidence taken points to the fact that nearly all the waters in the Province are more or less depleted."

In so far as angling was concerned the laws were anything but stringent. There were certain prohibitions as to the use of explosives, chemicals, artificial lights, etc., and close seasons were defined for many species, but, within these limitations there did not appear to be any effective regulatory control. Open seasons, too, were quite long, as for example, speckled trout, December 1st to October 31st; Bass and Maskinonge, June 16th to April 14th. There were no limits of take. The non-resident angling license was \$5.

As in the case of game, immediately after the Commission report had been submitted the Act was amended to incorporate in the Statutes a great many wise and necessary changes. It is interesting to note that, while a catch limit was placed upon bass, it apparently did not apply to those persons fishing within five miles of their usual place of residence for it specifically declares: "No tourist or summer visitor shall take or catch or kill in any Provincial water or carry away a greater number than one dozen bass caught or taken in such waters upon any one day." According to a definition in the preamble: "'tourist', or 'summer visitor', when used in this Act shall include all persons who may, during the spring, summer or autumn months be temporarily visiting, boarding or lodging in any locality at a distance of over five miles from their usual place of residence in other parts of the year."

The speckled trout limit was set at fifty per day, or a weight aggregate of fifteen pounds with a minimum length of five inches. At this time the

pike and muskey were not in particular demand, and except for the general regulations which prevailed there were no limitations.

The passing of the last mentioned Act ended the first period of Game and Fish administration under the nominal jurisdiction of the Commissioner of Crown Lands. Control was now placed in the hands of a Commission which functioned during the period 1892-1905-6. The Board was reasonably active along certain lines, particularly in the matter of enforcement, and for that purpose attempted to organize a protective service, in which effort it had some measure of success. However, it appears to have devoted a great deal of its time and energies to the deer situation in order to check the more or less unrestrained slaughter which prevailed. The principles of conservation as we know them today were still in embryo and were not born until many years later. To quote from an official report published within recent years: "The decade or more years following the appointment of the Game and Fish Commission witnessed some advance in law enforcement, but little in the matter of law improvement."

The third administrative period began in 1905-6 under the present Department of Game and Fisheries. In this period the foundations of a broad programme of conservation were laid and carried through with resolution and courage. This programme has included not only control—through regulation and enforcement—but also protection, under natural conditions, and both natural and artificial propagation, in order to rebuild depleted resources. During the first two periods game management consisted mostly of attempts to control through regulations, and these were frequently of a hit and miss variety. The years were characterized by a perpetual withdrawal from capital account without any deposits to balance the statement. Administrators failed to take cognizance of the advance of civilization and all it meant to wild life development, or to recognize that the unlimited use of capital in addition to interest is a sure way to bankruptcy. Looking back over the years we are of course in a position to be wise "unto our day and generation", for we see the errors and note the consequences. It does appear, however, as if all efforts to perpetuate the resources were directed towards restrictions designed to slow up capital expenditure by intermittently closing the account for varying periods and trying to curtail the amount of the withdrawals in order to string out the balance.

The new era has been one of gradual reconstruction and adaptation of administrative policies to meet the needs of the times. The tremendous economic and recreational value of the resources became evident and their protection most imperative. Conservation does not imply disuse but rather such reasonable utilization of the available assets as will serve present needs and still ensure future abundance. The general body of the laws in force today are not new, they have been in effect for generations, but they have been modified and adjusted in the light of knowledge and experience to meet modern needs and sane practice. Sportsmen will realize that open seasons, bag limits, etc., as they exist today, are considerably restricted as

compared with half a century ago, and the reasons for such will readily suggest themselves. Regulations, however, fail in their purpose unless they can be enforced, so it has been necessary to build up a large, permanent force of enforcement officers. This force today numbers close to 100 men, as compared with the four or more Wardens recommended as a nucleus half a century ago, and is largely augmented by the assistance of the Provincial Police and a host of Deputy Game Wardens.

In previous issues of the Bulletin we have discussed the many activities of the Department which are effectively building up depleted resources and taking care of the ever-increasing interest of the public in the sports of hunting and fishing, therefore we merely mention them in passing; Game Preserves, Closed Waters, Fish Hatcheries, Bird Farms, Regulated Shooting Areas, etc. In these varied practices will be found the essentials for perpetuation and rehabilitation, namely, protection, natural development, artificial propagation, re-stocking and wise use.

The most pleasing feature of game management today, however, is the new spirit of co-operation which exists between sportsmen and the administrative department. Individually and collectively those most interested in wild life are rallying to the cause of conservation as never before, and the general public is beginning to realize that there is more to hunting and fishing than just mere killing. The element of food seldom enters into the picture so far as the sportsman is concerned, therefore the recreational pleasures are being stressed rather than the bag limits. Such an ideal emphasizes the thrill, not the kill; the opportunities for health and happiness rather than big catches; and in so doing places a larger measure of responsibility upon the sportsman for the preservation of his sport. As someone has said: "The most effective game laws are not written in the Statute Books but in the conscience of the sportsman".

Are You His Pal or Just His Dad?

The spirit of Christmas is represented by that genial old gentleman with the bushy whiskers and pronounced corpulency whose name is a thrill to every youngster, Santa Claus! His reign is a brief one, but the joy which he leaves behind endures for many moons. It is a charming myth; a wonderful illusion, and when a child becomes too sophisticated to believe any longer in the miraculous powers of this super-traveller, expert chimney prowler, and mind-reading philanthropist, he ceases to live in the "golden age" of carefree make-believe! "Oh, Santa Claus is just your Dad", says the knowing boy to his still imaginative and trustful little pals, as he assumes an air of superior knowledge; and his tiny listeners are shocked at his revelation. Yes, Dad, it does not take your boy long to learn that you are his Santa Claus; that to you and Mother he is indebted for the many good things which fall to his lot at Christmas. As for you, the spirit of the season is catching; there is nothing within reason you wouldn't do for him because he is your flesh and blood; a miniature reproduction of

yourself. The festive season presents the opportunity for intimate contact because it is the spirit of the time. Is there any reason, however, why that close relationship should not exist throughout the whole year? Probably you think it does; your affection does not weaken, but do you continue to extend that comradeship which may mean the difference between joy and sorrow in your life and his? When it comes to the moulding of his character, yours is a very definite responsibility, and it cannot be fulfilled by merely playing Santa Claus at Christmas.

It is not our intention to sermonize on public morals, but rather to point out to the sportsman that the future of a valuable heritage is in the hands of boys such as yours, and that parental responsibility for proper guidance and direction on sportsmanship is of primary importance to his future, as well as to the conservation of our natural wildlife resources.

No doubt, being the son of his father, your boy is a real, red-blooded Canadian, wise to the recreational possibilities of the great outdoors; interested in firearms, fishing tackle, and the many appurtenances which make up the equipment of the Angler-Nimrod enthusiast. No doubt, too, that he longs to accompany you on some of those expeditions to forest or stream which provide you with so many pleasing thrills; and you turn him down because he is "just a kid", or he does not fit in with your plans. It would be absurd for us to suggest that you take him with you on all your fishing or hunting trips, but you could let him go with you whenever it was convenient, and you might be surprised to find out what real companionship there is in the spirit of youth. He has to do his playing mostly with other kids, but he can hardly pick and choose them, therefore if you want to make sure he is steering his ship within the safe direction of the radio beam of good sportsmanship, lend a hand at the controls.

Let us assume, for example, that he goes to the lake every summer and is passionately fond of fishing. You probably bought him a fishing pole and all the rest of his requirements, but did you take the time to explain to him the rules which apply to the game? Have you tried to point out the difference between a black bass and a rock bass, for example? You know that there are limitations on the taking of the one, but not on the other; does he? You want him to play the game fairly, but how can he, if he doesn't know the rules? When you had him out with you over the weekend, were you careful to see that limits were observed and undersized fish carefully returned to the water? You probably have noticed that on such occasions he will be guided by your example, and if you are "playing the game" he will be duly impressed. To enjoy good fishing—which being defined, means healthy, happy recreation—is his birthright, but this can only be assured by strict observance of the regulations which govern.

If this boy of yours is an average son he will sooner or later yearn for a gun. Now experience with a gun can be bought very dearly. It is a weapon capable of affording a great deal of pleasure, or of causing perpetual heartaches. Don't play Santa Claus to him in this regard, then

leave him to his own resources. It would be infinitely better to spend a few Saturday afternoons with him in the bush teaching him the requisite of self-restraint in its use. All wild life is not a legitimate target, and indiscriminate shooting is dangerous. He must be taught the necessity for conserving wild life but, he must also learn that conserving human life through the careful and intelligent use of firearms is of primary importance. These are responsibilities you cannot afford to neglect, and if you start him off properly qualified through personal direction, practically demonstrated, you need have no fear of his sportsmanship. By this time, you know, he is no longer a "kid"—for, to have a gun and license to hunt he must be 16 years—so that he is capable of affording you a great deal of intelligent companionship. On the other hand he is just at that age when he is liable to get his experience in the company of other inexperienced, and probably irresponsible youths, of his own age. In the hunting field irresponsibility has no place. Each year a large assortment of small bore rifles are confiscated by the Department for breaches of the regulations. These were largely the property of youths to whom Santa Claus was generous, but not quite fair. Youth must be served by association with youth; but it is still a parental responsibility to see that proper direction is afforded. This is particularly so in connection with the sports of hunting and fishing, for when your boy participates in these he is, for the most part, his own umpire, or referee, and must play the game according to his conscience, although he is still subject to the regular penalties for infractions, if, and when, caught. His attitude under these conditions will be a barometer of his character.

It is our belief that the spirit of youth is sound, but it must have proper guidance based on knowledge and experience, and when it comes to hunting and fishing—where the ethics of sportsmanship are so essential to a rightful appreciation of the pleasures involved—who has a better right, or opportunity; to establish a solid foundation for future guidance than you, Mr. Sportsman Dad?

In advocating this closer contact between father and son in their outdoor relationship we have in mind two things: first, the parental joy of sharing his companionship and directing his energies along proper lines; and second, the necessity for the training of the youth of the country in the essentials of conservation through the application of the principles of good sportsmanship. There are other agencies and associations through which your boy may learn to "play the game", but in depending upon them you deprive him of that personal contact which is his right, and which may in the future mean a great deal to both. And so we ask a very pertinent question: Are you his pal or just his Dad?

Administrative Headaches

Conservation and Game Management are terms which, if not synonymous, have much in common. They deal with the problem of maintaining a perpetual supply of the desirable species of game in such abundance as to take care of present demands and future requirements. Such manage-

ment has an economic as well as a recreational driving force, and the combination of the two is of considerable importance in contributing to business prosperity and individual happiness. In dealing with the wild life resources of a country it is well to remember that a national heritage is at stake and a great variety of interests involved, therefore, however simple the problem may appear to the superficial observer or student, it is nevertheless fraught with difficulties which, like the study of the solar system, become more involved the deeper the subject is probed. The laws of Nature are permanent and to disregard, or attempt to materially change them, is merely inviting trouble. For example, in less enlightened days it was deemed good policy in order to protect and increase the numbers of desirable species of game to destroy all predators which lived off such game. It was a simple expedient, and surface sound, but where it has been practised extensively the experiment has usually back-fired in some manner. To appreciate the underlying reason for the difficulties which ensue it should be remembered that the development of almost every species on earth has taken place with natural enemies continually taking their toll. This condition is normal; it is Nature's provision for wild life perpetuation, and drastic though it may seem, the law of destruction for the purpose of stimulating life is practised throughout the animal world from the highest to the lowest form. When man undertakes to change this fundamental law of perpetuation for his own convenience or pleasure, particularly in the wild, without a full knowledge of all the related facts, he is liable to find his best interests jeopardized by the sequence of events.

The experiment of artificial development of desirable game species in the wild, through almost complete predator destruction and rigid protection, has been tried in various parts of the world in connection with deer, and certain game birds—as in the grouse moors of Scotland. In the latter case the lands are private and kept for the purpose, therefore food is always available. The birds are really a planned crop, raised mostly for their economic value, and can hardly be used to illustrate the point at issue, except to demonstrate the fact that predator destruction will undoubtedly result in increased numbers of the desired species. In the case of deer, the first result was an almost immediate increase in numbers, but as they developed numerically they deteriorated physically, food became a problem and disease rife. Almost similar situations have developed in Pennsylvania, Arizona, Scotland and New Zealand, where in each case the development of deer was made a primary consideration, with quite unlooked for results. Pennsylvania is perhaps the greatest deer state on the Continent, but this fact has brought only worry and administrative headaches to its Game Commission. Its present deer situation has been built up from next to nothing and brought about through rigid protective measures. Unfortunately the deer have almost eaten themselves out of natural environment, and have descended like a minor plague on farm crops in many areas. To reduce the population and regulate the herd where necessary, open seasons

on antlerless deer have been frequently proclaimed by the Commission, but these have always received opposition from sportsmen—last year a court injunction was taken out by certain groups prohibiting such an open season, even after licenses had been sold. In the meantime the unbalanced sex relationship is having the effect of overcrowding the range with does, productive and barren.

In an editorial in the December issue of the Pennsylvania Game News—the official publication—after reference to the difficulties placed in their way by sportsmen, we find the following statements: “Subsequently when the deer problem became still more acute and more widespread, and when farmers and landowners, hard pressed as they were, demanded reparation for depredations to their crops and orchards, sportsmen again voiced their protests.”

“Other methods were employed to reduce the deer population, even state-wide seasons for killing antlerless deer, but the animals continued to increase, and now they are found in every one of the sixty-seven counties of the Commonwealth. In at least twenty counties there should be no deer at all. Furthermore, contrary to the belief of those who opposed the methods employed by the Commission, the kill of legal antlered deer from year to year maintained a constant level and even continued to increase.”

“Today the Commission is faced with more vital problems affecting its herd than at any time in the Commonwealth’s history. Landowners in northern forested areas of the state literally have their backs to the wall. As a result of over-population, as many as 30 to 50 deer have been killed on one farm in an effort to save what few crops remain. These assertions are not idle chatter, they are factual. Records to prove their existence are available at the office of the Game Commission for any who care to verify them.”

“Almost 1,000 deer were killed by farmers to protect their crops and orchards during September alone. The figure for October will no doubt run even higher. The tabulation for the deer killed for the first nine months of 1938—(2195)—published in the last issue, gives concrete evidence of the fact that drastic measures must be employed if any relief whatever is to be afforded the landowner.”

Truly the problem of game management is fraught with many difficulties; nor can it be solved by the superficial plan of unduly developing one species at the expense of another, particularly in this age of private ownership of land and public ownership of game. Food is essential to all forms of life, but a given area will only sustain a certain number, and an unnatural increase in numbers will but serve to exhaust the food possibilities quicker, and necessitate an exodus to new areas—which probably are already serving their quota—or to agricultural lands where their depredations may be considerable. In the case of big game, artificial feeding is difficult, for the range is extensive and the herds scattered, so the provisions of Nature must largely be depended upon.

Ontario sportsmen have a vast, forested area both north and south which is capable of taking care of all big game requirements for many years to come. Economic development of the country will gradually change conditions here and there, but in this era of fast, efficient transportation the sportsman suffers little handicap because of distance. At the present time the deer herd is still ample and its natural development sound. Reports from all over the Province subsequent to the recent open season indicate increases in many areas and that, generally, excellent sport was obtained. Regulatory measures to protect and control the supply will continue to keep pace with modern requirements, but it becomes a personal responsibility of the sportsman to see that these valuable resources are not dissipated through illegal taking or unscrupulous practices.

Winter Feeding of Pheasants

To date the weather has been comparatively mild. "Just around the corner", however, the icy blasts of winter are concentrating and threatening to cut loose any day. When conditions become too severe the Ring-neck Pheasant finds it difficult to obtain food in its usual haunts and so it begins to edge closer to human habitation, where presumably there is plenty. The pheasant is not well adapted to the process of "scratching for a living", and as a result, when the countryside is wrapped in a mantle of deep snow, and shrubs as well as bushes are buried beneath an icy crust, rustling for food becomes an almost impossible task. It is then you will find it in barnyard and orchard, eagerly picking up the crumbs which fall from the table, so to speak, of the more fortunate domestic fowl or animals.

Winter losses among wild life can be quite extensive when weather conditions are severe. Lack of food is the primary cause. Well-fed game birds rarely die from exposure. Starvation, however, may cause a heavy mortality rate, either directly, or by so weakening them that they become easy victims of predators or more susceptible to cold, disease or other misfortune. It is difficult, of course, to take care of all pheasants which might be affected in the wild, but it is gratifying to note that farmers and others interested are doing a great deal each winter to make the problem of feeding a little easier. Sportsmen are reminded that the more birds which survive the winter the better will be the prospects for hunting next fall, and it would therefore be a pleasing gesture on the part of the hunter if he would co-operate with the farmers and the Department in seeing that, if severe conditions set in this winter, the birds will not suffer because of food shortage. Cold is not a factor of great importance provided they are healthy and well nourished. Coarse grains, corn, etc., are suitable winter food, but obviously such food must not be scattered indiscriminately where it may be buried in snow or blown away by winter gales. Rough shelters of almost any material which will keep off the snow should be provided, and these should be placed close to cover. If grain is merely scattered on the ground the snow should first of all be scraped away.

In view of the heavy stocking which took place this summer the birds should be quite plentiful, particularly in the regulated areas, and under normal conditions a good hatch may reasonably be looked for next year. However, a protracted period of very heavy weather might conceivably play havoc with the stock, and it is to avoid any such situation that we suggest that sportsmen and responsible organizations should be prepared to afford some measure of relief should the occasion arise.

A Word in Season

The following is taken from today's morning paper: "Two fine specimens of deer were noticed wandering in North York and Markham Townships over the week-end, but both eluded capture." The item details the names of the persons who first saw the deer and tells how the animals were chased by numerous people, but in both cases escaped their pursuers. For the life of us we cannot understand why these people wanted to capture the deer. Legally there is nothing they could have done with them, for a close season exists, and to take them alive is just as contrary to the law as to shoot them. We can think of nothing that will give more thrill than to unexpectedly come across these creatures of the wild close to civilization. The fact that a number of people chased the animals shows that they were intensely interested in them, but all they succeeded in doing was to drive them out of the district. Given a chance the deer are quite capable of taking care of themselves, so when one appears where it is least expected onlookers need not worry, it will soon find its way back to its natural habitat.

While we are on the subject it might be opportune to refer to another practice which is quite prevalent; we refer to the habit of certain kindly disposed, but misguided people, of picking up all sorts of young animals and birds which they may discover apparently helpless, and carrying them home, or turning them over to some institution, to afford them protection. In most cases the young are neither deserted nor in dire straits. The mother, unless it is known positively that she has been destroyed, is seldom very far away from her family, and quite capable of taking care of them. The feeding and nurturing of all species of wild life is carried on under a definite plan, just as is the care and upbringing of children, and the fact that they have to be left alone at times with apparently no parental care is no reason to assume that they have been deserted and are suffering thereby. Unless there are very good reasons for not doing so, it is well to allow the young to remain where they are; to remove them to an artificial environment, however kindly the intention, is neither wise nor desirable.

The Gun License

Elsewhere in this issue of the Bulletin is an article tracing the evolution of Game Management in the Province. It has reminded us that most progressive steps and legal requirements are the result of the development of

an idea over a period of years to meet changing conditions. Prior to 1926, for example, there was no gun license in effect in the Province, and as a consequence the carrying and indiscriminate use of firearms, especially in the denser centres of population, was quite a problem. This fact became obvious to sportsmen, and it was not surprising, therefore, that the suggestion to control the situation through the imposition of a license was approved by the hunters themselves. A resolution that this be done was presented to the Game and Fish Committee by the Ontario Hunters Game and Fish Protective Association. The imposition of new taxes, however, has never been popular with the public, so it was felt that the time was inopportune for the introduction of such a policy on a general scale throughout the Province. Nevertheless, the situation in certain areas was such that something had to be done to restrict the promiscuous use of guns. In 1926, therefore, provision was made in the Act requiring hunters in Welland, Lincoln, Wentworth and York, populous centres, to purchase a gun license at a fee of \$2. This regulation may not have been popular among certain classes in these areas, but it was effective in curtailing the general practice of gun carrying by every Tom, Dick and Harry who had inherited or could readily procure a firearm, and felt privileged to wander afield and shoot, in and out of season, with more zeal than discrimination. Next year the provisions were extended to include Peel and Halton Counties. It was evident by this time that there were teeth in the regulation, for licenses could be confiscated for breaches of the Act. In 1928 the Act was again amended to include more of the Counties in southwestern Ontario; these were Waterloo, Lambton, Essex, West Kent and West Elgin. A year later East Kent, East Elgin, Middlesex, Perth, Oxford, Norfolk, Brant, Haldimand, South Huron and South Wellington sportsmen found themselves under the necessity of conforming with the same requirement as their fellow hunters in the aforementioned Counties. The effect of the requirement was twofold; in addition to providing revenue for development work, it was serving the purpose for which it was intended, viz., the control of firearms when used for hunting. Subdued murmurings began to be heard, however, as to cost, and suggestions that it was a discriminatory license in that it only applied to certain areas. Finally, in 1933, both objections were taken care of by making the provisions applicable to the whole Province and reducing the fee to \$1.

It is quite obvious that for many years to come the southwestern part of the Province is destined to be the experimental field for advanced policies and regulations covering the proper administration and use of our wild life resources. This is because the area is heavily populated, and economic conditions are such that special regulations are necessary. The latest effort along these lines is the Township Regulated Hunting, which is a step further along the highway of co-operative control.

Prayer of a Sportsman

By William Lyon Phelps

Dear Lord, in the battle that goes on in life,
I ask but a field that is fair,
A chance that is equal with all in the strife,
A courage to strive and to dare;
And if I should win, let it be by the code,
With my faith and my honour held high,
And if I should lose, let me stand by the road
And cheer as the winners go by.

And, Lord, may my shouts be ungrudging and clear,
A tribute that comes from the heart,
And let me not cherish a snarl or a sneer,
Or play any snivelling part.
Let me say, "There they ride on whom laurel's bestowed
Since they played the game better than I."
Let me stand with a smile by the side of the road,
And cheer as the winners go by.

So grant me to conquer, if conquer I can,
By proving my worth in the fray,
But teach me to lose like a regular man
And not like a craven, I pray
Let me take off my hat to the warriors who strode
To victory splendid and high.
Yes, teach me to stand by the side of the road
And cheer as the winners go by.

—*Pennsylvania Game News.*



*To the Staff, the Field Force and Sportsmen everywhere
the Bulletin extends best wishes for a Happy New Year.*





Monthly Bulletin

DEPARTMENT OF
GAME AND FISHERIES

January-February
1939

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*

Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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Guest Editorials

THERE'S need for a lot of earnestness in the times in which we live; and in the movement to conserve our diminishing fish and game, popular sentiment should stand ready to back up concerted action.

Adequate fish and game laws and the general enforcement of wild life protective measures have become public concerns of first magnitude and importance. People are beginning to realize what the word "Conservation" signifies. Hitherto many have thought it an academic term which held no practical application to them. Now they are learning that it is one of utmost significance; that ruthless or ignorant destruction of wild life, as of forest growth, is tantamount to robbing the public domain. Conservation is coming home to every one of us; all are learning to look to the future. It is a nice thing to go a-fishing; it is pleasant to turn from our labours with rod and gun; and the time has come to emphasize the fundamental economic factors which bear upon the relation of wild life resources to our material prosperity. Indeed, there should be no sectional differences on this score, no jealousies to warp judgment and stifle effort. The cause is one common to us all, and should unite us all, seriously and earnestly. It is our duty to lend ourselves, either by precept, example or action, towards eliminating the flagrant destruction of past years in the natural values and attractions of the countryside.—*Ottawa Citizen,*

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Conservation of wild life resources is contingent largely on the crystallization of public sentiment in approval of the protection and preservation of game and fish and its natural habitat. This crystallization of public sentiment may be achieved by an intelligent correlation of the activities of organized sportsmen. But conservation does not mean merely the husbanding of natural resources for future generations; it recognizes the right of the present generation to the fullest necessary use of its resources. And this right may be exercised without impoverishing the future if there be no waste, and if we who make use of these resources today look to their restoration for tomorrow.—*Fins, Feathers and Fur.*

Page One

The Highlights of 1938

This is the season of annual reports, financial and general. Stockholders and business executives are keenly interested in the results of the season's operations, and when it is possible to present a rosy picture of progress and accomplishment satisfaction is general.

The end of the fiscal year of the Department of Game and Fisheries is still a couple of months off, but it might be of interest in this, the first issue of the Bulletin for the current year, to refer to the highlights of the past calendar year in so far as they are of interest to the sportsman.

The year began with the meeting of the sportsmen's representatives and the Fish and Game Committee. This, as is well known, presents the opportunity for the Protective Associations of the Province to place before the Committee of the House such suggested changes in the Game Laws as may be thought desirable by the sportsmen whom they represent. Sometimes these suggested amendments are of merely local interest, frequently they are contentious matters which are difficult to harmonize, but for the most part the requests placed before the committee are the result of experience and mature discussion and have a bearing on economic advantages as well as conservational requirements.

It was evident at the last meeting of the Committee that those who attended and took advantage of the opportunity for presenting recommendations were keenly alive to the fact that the administration of our wild life assets is beset by numerous difficulties which are by no means superficial, and it was pleasing to note the spirit of co-operation which prevailed. Many of the proposals made were incorporated in the Act. One of the chief of these was the request to close a large section of Northern Ontario to Moose hunting. This was found to be desirable, and in the interest of the protection and development of the species.

Another amendment was the placing of a bag limit on cotton-tail rabbits and the prohibition of their sale in Essex and Kent. While this amendment is limited in its scope, it is nevertheless important to the areas concerned and recognizes the value of the cottontail from the standpoint of the sportsman.

Many other suggestions were embodied in the regulations, such as changes in seasons, conditions covering regulated shooting areas, etc.

Early in the year the Department began its annual distribution of trout and followed up throughout the balance of the season with the various other species of game and commercial fish which are propagated in the Provincial hatcheries and rearing ponds. The highlight of this fish culture and distribution work, so far as the sportsman is concerned, was the successful rearing and planting of some 2,063,165 yearling and adult speckled trout, and some 58,592 yearling and adult brown trout. Maskinonge fry exceeding 2,005,000 were also released in suitable waters. The total dis-

tribution of all classes of fish for the calendar year period amounted to 701,786,142.

In this connection it is of interest to note that a new hatchery and rearing station was placed in operation at Deer Lake in Peterborough County. This new station has facilities for rearing speckled trout, bass and maskinonge. It is the intention to carry out more extensive experimental work with the latter, with a view to determining the practicability of raising the muskie to a reasonable size before planting, as is now done with the speckled trout. Heretofore this has not been economically possible because of the rapid growth, large size, and food consuming propensities of the maskinonge.

A Rearing Station for bass was also established at Skeleton Lake, Muskoka, and rearing ponds for the same purpose placed in operation at Sandfield, on Manitoulin Island. Through the addition of these facilities the bass production should be considerably increased this year.

It is an indication of the value of our fishing as a tourist attraction to note that despite a falling off in the number of tourists who visited the Province during the year it is estimated that the revenue from non-resident angling licenses will show an increase over 1937.

In the matter of game, the outstanding feature was the release of some 20,000 ring-neck pheasants in fifty organized townships and the two southwestern counties of Kent and Essex. This was a continuation of the experiment begun during the previous year with the object of providing greater facilities for the sportsman to enjoy the thrill of pheasant hunting, without the heavy expense entailed in a trip to Pelee Island, in those areas of the Province where winter conditions are not too severe and habitat is suitable.

To ensure a reasonable measure of protection for the birds during the close season, and as a means of enlisting the co-operation of the farmer-landowners in making hunting facilities over private lands more readily available, it was found desirable to effect a measure of control over the numbers of non-resident hunters who might desire to hunt pheasants in any particular area. Sportsmen should never forget that while the game is public property, the land upon which it is found is mostly privately owned in the part of the Province we are discussing, therefore there must be co-operation and goodwill between the hunter and the landowner, or posted lands will result and hunting become greatly restricted. In the past, and indeed as a continuing experience, the farmer has had many legitimate grievances against a certain type of hunter whose actions have besmirched the reputation of all sportsmen, and the individual sportsman will realize that once a privilege is abused it is no longer extended. Restricted hunting and a large measure of control through the issuing of a limited number of special licenses for each regulated area have had the effect of eliminating a great deal of illegal taking and destructive practices, and have also resulted in creating a definitely better feeling between farmer and hunter.

Of interest to the sportsman also is the fact that the distribution of

live birds instead of the former general practice of having private individuals raise and release birds from eggs supplied by the Department, has given excellent results in re-stocking through natural development. During such open dates as were provided for pheasants in the past two years only cock birds were legal bag. As a reasonable percentage of the pheasants liberated were hens, and the birds are polygamous, the natural increase, and the additional protection afforded them, should soon result in heavily stocking the areas.

We are happy to report that the arrangements made proved very successful, and firmly established the value of regulated hunting, in otherwise closed areas, as a means of protecting the farmer against property damage and the game against law violators.

Upland game hunters were also provided with a generous open season for partridge, divided into two separate periods to accommodate the greatest number, while squirrel hunters likewise had the opportunity of gratifying their desires.

Deer hunting was even more popular than it was the previous year, judging by the fact that several thousand more resident licenses were sold during 1938 than in 1937, and reports indicate that the herd is being maintained at a high level. Many fine bucks were obtained; in fact this was a matter of general comment among the hunters.

Administrative activities were more pronounced than ever before, particularly in the matter of law enforcement and the protection necessary to ensure sane use of the resources. A great deal of illegal traffic in furs was revealed, and the resultant prosecutions not only served to give the matter much publicity, but also had the effect of closing a great many leaks through a general tightening of the regulations. The vigilance of the protective officers is seldom lax, and as a result many other cases of illegal excesses were brought to light and prosecutions completed. These have mostly been referred to from time to time in the Bulletin, and our readers will doubtless have noticed, as a result, that the poacher and the deliberate law breaker are quite unscrupulous, and their depredations a serious menace, to the conservation programme. The Department is cognizant of this fact, and is determined that major offenders will be prosecuted with vigour. The number of such cases during the past year appears to have reached a new high, and many substantial fines have gone to swell the annual revenue.

Speaking generally: it was evident during the year that the public is becoming more deeply conscious of the value of our game and fish resources and is extending a larger measure of co-operation in their protection than ever before. Organized effort and educational propaganda have brought home to the sportsman the extent and value of the privileges which we enjoy in the Province in the matter of fishing and hunting, and the real necessity there is for seeing that the resources which thus contribute so

much to human happiness are conservatively used and consistently developed. This keen interest by those most concerned is a pleasing sign because it ensures the necessary backing so essential to the success of administrative effort.

The highlights of individual experiences on field or stream will undoubtedly be recorded in the book of memory or, in many cases, made visually permanent by photographic records. These experiences are so varied and so individual that where two or three anglers or hunters are gathered together they simply exude enthusiasm. We believe you will agree with us when we remark that 1938 was an excellent year for the sportsman.

Indifference—The Brake on the Wheels of Progress

"A few years ago the Ontario Federation of Anglers distributed seven or eight hundred questionnaires in an effort to get definite information on the lunge situation in Ontario. Fifty replies were received. This indicates one reason why conservation is not making more rapid progress. Not enough people are willing to do anything about it, even to the extent of supplying information. Intelligent action can only be taken on the basis of accurate knowledge."—*Ontario Federation of Anglers.*

The experience of the Federation of Anglers is a common one. Human nature is such that the average man will not take the trouble to answer appeals for information in the form of written answers to a series of questions unless the giving of such information is mandatory, or likely to result in direct personal benefit. It will be recalled that for several years the Department attempted to get definite information on the deer herd by issuing a card with each deer license asking the hunter to answer three or four simple questions, the gist of which had to do with whether or not he got a deer, if so, what kind, and in what locality. The Department had no ulterior motive affecting the hunter or his take in asking for the information. Its concern was that it might have "accurate knowledge" on the situation so that proper measures could be taken to maintain the supply without unduly restricting the liberties enjoyed by the hunter. It was a simple and reasonable request requiring little time and no effort, and providing a means of obtaining such information as could hardly be obtained by any other means. Thousands of hunters were scattered over the Province searching for deer; the Department desired information about the herd; how could such information be more readily obtained than by the simple expedient of asking the hunter to supply it, as a result of his personal experiences? The response to the request was very discouraging, although the percentage was higher than that experienced by the Federation of Anglers.

It is difficult to account for this general apathy on the part of sportsmen with regard to efforts to improve their recreation and protect the resources which make them possible.

In the matter of supplying information of this nature, however, there is always a sneaking suspicion among certain sportsmen that such, when provided, may be used to the disadvantage of the giver. The man who is requested to furnish data on the fishing conditions in his favourite lake, or the abundance or otherwise of deer at his hunting camp, frequently feels that there may be some advertising propaganda behind the request, and so he hesitates to supply the information, lest his more or less secret rendezvous or sequestered water hole may be secret no longer.

On the other hand, the majority of sportsmen are aware that such inquiries, properly sponsored, have no motive except that which will be of advantage to the development of the game and fish resources and the consequent betterment of the allied outdoor sports. Neglect to respond to such appeals must therefore be charged to indifference or a complete lack of appreciation of the vital necessity for acquiring accurate knowledge if success in the conservation programme is to be assured.

It was indifference to consequences which resulted in the wild orgy of unbridled slaughter which so badly decimated wild life half a century ago; it was lack of interest on the part of those most vitally concerned which permitted that condition to exist; and it is this apathetic attitude on the part of sportsmen which today still tolerates the poacher and retards the consummation of intelligent action to improve conditions.

Indifference to the proper observance of laws and regulations, or the conditions which prevail, has no place in the ethics of good sportsmanship. Every individual who values his outdoor privileges must be prepared to demonstrate, through practical application, that his code is not a selfish one, and to throw the weight of his influence where that influence will have most weight. Public opinion is of tremendous importance in putting across any measure for the public good, and to secure this driving force the sportsman must himself display a consistent spirit of co-operation, and a willingness to assume a large measure of responsibility for the protection and proper use of the resources.

Confiscated Pelts

For several days the Department vault and storage room has resembled a fur warehouse. Exposed for the inspection of buyers was the largest collection of confiscated pelts the Department has ever handled in any one year. This collection included the following pelts:

Beaver	993	Mink	35
Muskrats	778	Weasel	96
Fisher	3	Squirrel	87
Lynx	2	Raccoon	62
Otter	14	Skunk	2
Fox (cross)	9	Wolves	3
Marten	14	Fox (red)	25

In addition to this record assortment of confiscated furs there was a collection of silver fox pelts together with some red fox and mink from the Fur Farm, and a small mixed group taken in Algonquin Park and included by the Department of Lands and Forests.

For the benefit of prospective buyers the furs were open to inspection for four days, and during that period they were constantly being turned over, examined and appraised by keen-eyed, shrewd buyers. Bidding for the various lots was in the form of sealed tender, so that those interested had to go over them carefully and determine finally what they were worth to them in a competitive market. The result of the sale has surpassed the expectations of the Department and will add considerably to the annual revenue. For example, the 993 beaver pelts brought a total of \$14,535, while the balance of the seized furs sold for \$1,700.85. The confiscated furs therefore brought a total of \$16,235.85.

Around this brief mention of the fur sale is a story of never-ending vigilance on the part of the field force; that silent but effective group of Overseers whose mission is to enforce the Game and Fisheries Laws and see that the wild life resources of the Province are protected from the pilfering propensities of the poacher. A glance at the summary of confiscated pelts given herein will convince the most indifferent that there is a real necessity for such keen watchfulness. Take the case of the beaver for example. These animals were destroyed during a year when there was a completely closed season on beaver, and in addition a large percentage of them had been purchased from the poachers by unscrupulous fur buyers, who, in turn, would be forced to dispose of them by further dishonest manipulations. The irony of these extensive seizures of beaver pelts is that the season was closed because it was felt that the animals required protection against trapping for a period, in order to increase their numbers, and the good trapper, realizing that such a measure was in his own interest, respected the restriction. The poacher, on the other hand, apparently found in the restriction an opportunity to enlarge his activities, aided and abetted by certain irresponsible buyers.

In the October issue of the Bulletin we quoted a report from one of the sporting magazines on the case of one Jacob Isaac Glick, from whom extensive seizures were made and who went to gaol for 2½ years for his illegal operations. Almost 47% of the beaver pelts disposed of at the recent sale were found in possession of this individual.

As showing the widespread nature of these illegal practices we mention the fact that 80 beaver came from the Patricia district; 41 from Algoma; 17 from Renfrew and 51 were seized in Toronto. The balance in small numbers came from all over the Province.

The same general remarks apply with regard to the other furs. They were seized for a variety of reasons, but in all cases breaches of the Act were involved.

It is but fair to add that, despite this tale of unlawful taking, the score is not all bad. It has been noted, for example, that some 32 beaver accidentally caught in traps set for other legal fur, were forwarded to the Department for disposal, by the trappers themselves.

A Stone Beaver Dam

The engineering skill of the Beaver is too well known to require detailed comment, and yet much misinformation is prevalent concerning his accomplishments. For a relatively small animal his feats are so colourful as to lend themselves to a great deal of exaggeration through too vivid imagination. "If," says Martin, a writer of a book on the Canadian Beaver, "no exaggeration had ever appeared in connection with the beaver except those referring to his performances in felling trees, the stock of these alone would have been sufficient to damage the reputation of natural history writers, for the accomplishment of applying their cutting teeth to the trunk of a tree, in much the same manner as a rat will cut the corners of cupboard doors, has been magnified and embellished beyond recognition."

It was just such a thought which occurred to us a few days ago when we received a report from Overseer Crichton at Chapleau stating that in a recent patrol with Overseer Kinahan in the Chapleau Game Preserve he had come across a beaver dam made entirely of stones. Our first reaction was one of incredulity. From personal observation, book knowledge and visual illustration we had assumed that beaver dams were all constructed, after the same fashion, i.e., of sticks, stones, poles and mud. To find one built entirely of stones was certainly uncommon, if not unique. The discovery, we knew, would be of interest to sportsmen and naturalists, but it seemed unwise to publish the fact without some verification, so we asked both officers for further particulars. In the meantime we consulted Professor Dymond, of the Royal Ontario Museum of Zoology, on the matter, and he informed us that while a dam of this nature was not unique, it certainly was rare. Seaton's story of the Beaver, he advised us, contained a reference to such a dam. Looking up the work we found this statement by the author, in which he is referring to a dam he visited in Yellowstone Park: "This dam is built largely of stone where it reaches the talus of the cliff, and entirely of mud and sticks where it runs into the marsh."

With this as a background therefore, we present the report of the Officer: "While patrolling in the Chapleau Game Preserve just before the freeze up, I found a beaver dam made entirely of stone; this dam being the second of a series of dams stretching from Bolkow Lake into the Addison Township country. The first dam made at the narrows on Bolkow Lake is made out of sticks and mud and is well over three hundred feet long. Proceeding to the end of the lake and about two hundred yards up the creek and just below the junction of the Gooseberry and Addison Lake waters is this beaver dam made entirely out of stone. Small round stones averaging six or seven inches in diameter were used. The dam is about sixty feet

or more long and about three feet high, and not a piece of wood or mud was used in the construction of it. It is built in a very fast river, where a lot of water comes down, and mud and silt have filled the crevices in the rocks on the upper side until the dam is absolutely watertight. Above the dam are a number of beaver houses, and judging by the looks of the dam, the beaver are not going to be troubled by their dam going out for a good many years."



A BEAVER AT WORK

In a further communication the officer gives this additional information: The Creek upon which the dam is built was once used for logging operations by a large lumbering company, and they had a block dam on the creek some 150 to 200 yards below where the present dam is now located. This lumber dam was destroyed about three years ago, and there have been no lumbering operations for many years. The present beaver dam was not in evidence when the officers previously visited the place in 1936. It should be noted that the dam is within the largest Game Preserve in the Province, some 1,824,000 acres in extent, and that the area is seldom travelled except by the Overseers and perhaps the odd poacher. "The dam," according to the Overseer, "is built straight from bank to bank, is about thirty to thirty-six inches high and built thirty inches wide at the bottom, coming to a peak at the top like an inverted V. The stones are available along the shore of this creek and very close by. The beaver in this creek have to have a dam, and this is the only one below these houses on the creek."

In a separate report, in answer to our enquiry, Overseer Kinahan, the second officer, supplies some additional information as a result of his personal observations. "Dams of this sort," he states, "are built on rivers where the water is slightly swift and in gravel and stoney country, where one built of mud and sticks would not hold. The stones used are the smooth kind that are found in gravel country, and the average weight would be about five pounds."

"I have seen dams of this kind built of stones to a height of about three feet, and about five feet wide at the bottom, with an additional two feet of brush and sticks on top. No mud or earth was used and the water ran through the brush as well as over it. If mud had been used along with the brush as in an ordinary dam the force of the water on a swiftly flowing stream would wash away both the mud and brush."

The instinct of the beaver is developed to a high degree, and his elaborate dams and waterways, built to provide a home and proper environment, have always set him aside as a creature of creative skill. This interesting information on stone dams emphasizes the fact that he is also capable of adapting his work to meet the existing circumstances.

Pheasant Raising Has Its Tribulations

Last year the Department released many thousands of pheasants prior to the opening of the pheasant season. Many of these birds were raised by private breeders under contract to the Department. By midsummer it became necessary to write certain of these breeders requesting information as to the number of birds that might be expected and how soon these would be available. In response to such an enquiry the following startling letter disclosing tragedy and near tragedy was received:

"Dear Sir:

I duly received your memo of the 21st instant and regret I have not a very pleasant tale to unfold.

I started with four hen pheasants and a cock bird. Everything seemed to be going all right and they commenced to lay, until one morning when I went to feed, there were only three hens and the cock walking around, the head and neck of the other hen was lying on the ground. At intervals of a few nights, the other three hens disappeared one at a time, leaving no trace of any sort behind. A night or two after this I heard a noise from the lone cock bird at 12.30. I rolled out of bed, and out of the house immediately, without stopping to put on anything extra by way of clothing, not even a pair of slippers. The night was dark; I got to the pen and found something was hanging by one leg, caught in the wire netting. I grabbed it. It was feathers. I pulled it down, and the brute grabbed the side of my other hand and nearly pierced it through. I felt this awful grip was taking the strength out of my arm, so I placed the wild bird between my knees and held him there to free myself, then with both his legs in my hands

I lashed his head on some boards, and from this treatment he never recovered. It was a large Brown Owl weighing $4\frac{1}{2}$ pounds. Next thing was to attend to my wounded hand which had already started to swell up and become very stiff, to the extent that I was not able to do my milking for a couple of days. Then I found one foot was bleeding a bit. I cleaned that, then got back again into bed, where I slept comfortably until 4.30 a.m., when it was time for me to get up again.

Thus ended my first experience of pheasant raising, not altogether encouraging, but for all that, I may try again next year."

Making the Penalty Fit the Crime

Those who enjoy upland game bird hunting but are careless or indifferent to the fact that the insidious and destructive influence of the poacher—and the misguided individuals who keep him in business through the secret and illegal purchase of his illicit stock-in-trade—are forces to be continually reckoned with, should study well the following cases which are just a routine part of the work of the enforcement officer.

The first, and major offence, concerned a business woman residing in Hull, Quebec, and catering to the epicurean tastes of certain Ontario and Quebec citizens. The business of buying and selling game birds became so flagrant that special measures were taken to put an end to the traffic. Officers of the Department discovered several hundred partridge in cold storage and were able to link up a large number of them with the lady referred to. She duly appeared in court and was fined \$1,000 and costs; which ought to be sufficient warning that such misuse of a valuable public resource will not be tolerated.

Arising out of the same investigation, another Ottawa gentleman, whose sporting ethics are at loose ends, was also found to be in illegal possession of partridge and was fined \$300 and costs.

Two other Capital City citizens were likewise involved in this nefarious business of buying and selling protected game. One was fined \$60 and costs for selling six partridge, while the other parted with \$40 and costs at the instance of the Court, for purchasing four birds.

Obviously, such a widespread destruction of Ruffed Grouse involves a great deal of poaching, and a reversion to the wasteful and disquieting conditions which prevailed over half a century ago. So long as there are people who are in the market to purchase, despite regulations to the contrary, just so long will there be found equally unscrupulous persons ready to supply their requirements. The good sportsman will realize that such a situation endangers his rights and recreational pleasure, and places an unnecessary obstacle in the path of conservation progress. It is his duty, therefore, to co-operate with the Department to protect our game and fish resources from such unwarranted abuses.

We congratulate Inspector Revill, and Overseers Robinson and Baker,

on the good work accomplished in these particular cases, and also thank the Quebec officials and others who assisted in making the evidence positive.

Almost before we had recovered from our surprise at the magnitude of the operations in the Ottawa district came a report of a seizure and conviction in the City of London. Acting on information received, members of the Provincial Police Force searched a certain store in London and discovered some 34 pheasants in cold storage. These birds were purchased from Indians, who allegedly shot them on the Muncey Reserve, and were undoubtedly held for re-sale. In this case the proprietor of the store also paid a fine of \$10 per bird, amounting in all to \$340 and costs.

And as if to prove to the sportsman that upland game birds are more plentiful than is generally supposed there is the case of the poacher in the peninsula district, who recently appeared in court on a charge of being in illegal possession of ten Hungarian Partridge. He, too, it is alleged, was in the business of supplying the demand of the unscrupulous, for forbidden game. His explanation of the offence was that while out hunting he saw what he thought was a rabbit moving about, and fired at it. When he went to reclaim his prize he discovered, instead of a rabbit, nine dead and one wounded hungarian partridge! The Magistrate was apparently not impressed by the story, for he made a rapid calculation somewhat after this formula, $10 \times 10 = 100$, and gave voice to the sentence of the Court—" \$100 and costs or . . . !"

We ask the sportsman to notice two things in connection with these various offences. The first is that no stone is being left unturned by the Department to bring the lawbreakers to justice. The second is that illegal depredations, if unchecked, may assume extensive proportions; witness the fact that those enumerated include Ruffed Grouse, Pheasants, and Hungarian Partridge in what might be considered unusual numbers, and which represent the most important upland game birds available to the sportsman. If, therefore, you value your rights and privileges, get behind the efforts which are being made to eliminate the poacher.

Muskrat—A Gastronomic Delicacy

In a few weeks the trapper will be focussing his attention upon the swamps and marshes, praying for an early break-up, or that conditions during the open season will be such as will permit him to set his traps for the lowly, but valuable muskrat. Perhaps we ought to qualify that last statement by saying that, while the individual pelt of the muskrat brings only a small price in the market, the animal is usually taken in such numbers that their cumulative value is quite substantial. The last available report, that for the year '37, shows that royalty was paid on some 343,972 muskrat pelts. Figured at the average market price for that year this represented in actual cash to the trapper \$618,299.13. That is a substantial contribution to the economic resources of the Province.

However, at the moment, we are not so interested in the economic value

of the pelt as we are in the food value of the carcass. We know, of course, that what we eat is a matter of convention, circumstances, and that elusive but delightful part of our physical make-up which we call appetite. What will satisfy the appetite is largely governed by our material circumstances rather than by food value. The average menu depends pretty much upon geographical location and the degree of our civilization. All of which is tantamount to saying that we can eat and relish almost anything which is palatable, and the only reason our menus are not more diversified is that we have become accustomed to certain foods and there is an abundance to satisfy our wants. Ask the average man if he would care to dine on horse flesh or ground hog legs and he would probably shudder with horror at the suggestion, but serve him the one as roast beef and the other as fried chicken—without making him any the wiser—and he most likely would confess he thoroughly enjoyed the meal. The psychology which controls our likes and dislikes in the matter of food is largely based on the snap



THE MUSKRAT

judgment of our senses and a too keen discrimination, often lacking justification. Our mental reaction to the suggestion that the flesh of certain animals would provide excellent food oftentimes causes revulsion of feelings, and yet some of the most expensive, and delightful dishes provided to satisfy the most epicurean tastes, are so uncommon as to excite our amazement.

All this is by way of introducing in part an article by James Nelson Gowanloch, Chief Biologist; Louisiana Department of Conservation, in the Louisiana Conservation Review. The article follows:

“Have you ever eaten muskrat? If you have not you have missed one of the finest dishes that the whole range of North American game can offer. The writer, in various parts of the continent from Nova Scotia to California

and Manitoba to Florida, has eaten the various ducks and geese, ruffed grouse, prairie chicken, woodcock, jack snipe, the various sandpipers (when they were legal game), bear, deer, moose and buffalo (American bison), but he can make the considered statement that muskrat, properly prepared, is the peer of any of them.

Musk rats are not really rats at all. It would be just as incorrect to call rabbits rats. In fact, muskrats are more closely related to the rabbits, and much more closely related to the squirrels, than they are to the objectionable house rat. Their unfortunate name is certainly not deserved, but has become so widely used that to almost everyone a muskrat is just a muskrat and nothing else whatever.

Musk rats elsewhere have gained a deserved fame as a delicacy. Designated by such helpful names as "swamp hare" and "swamp rabbit", the muskrat has become an honoured dish in some of the finest hotels in Eastern United States. Maryland trappers, for example, find a ready market for all the available supply they can provide in Baltimore, where muskrat under its other menu names appears as an expensive and greatly prized dish.

The writer has served muskrat to many fastidious gourmets, none of whom knew at the time the identity of the food they ate. Invariably muskrat, fried, stewed or boiled, won the highest approbation, the taste being described by many as resembling young marsh hen (clapper rail).

Consider now muskrat as an entree. Muskrat can be prepared in any of the many ways that squirrels or rabbits are prepared. When it is remembered that in a single year over six million muskrats were trapped in the State of Louisiana, it will be realized how vast a potential supply of exceptionally delicious food is almost completely wasted. Trappers themselves eat the muskrats, but it is surprising how few connoisseurs of game, well familiar with the various distinguished methods of the preparation of wild flesh and wild fowl, are utterly ignorant of the delicacy that should of all game, be more available in Louisiana than in any other state in the Union.

How is muskrat prepared? Well, the answer is simple. The only difference of treatment from the preparation of rabbit or squirrel is that the two musk glands must be removed. These are two small bodies about one-half and three-quarters of an inch long, readily located on the inside of the thigh of the animal. They should be carefully cut out when the muskrat is dressed. Thereafter, the meat can be treated like any other game. For those who prefer to remove the "wild" taste typical of wild geese, wild ducks and squirrels, just as much as muskrats, a preliminary treatment with vinegar may be used. If the gamey flavour is appreciated, the vinegar treatment may be omitted. The writer prefers the retention of this distinctive wild taste. One recipe very kindly provided by Rosie Lee Mevers is as follows:

Muskrats are cleaned, the glands removed, and the carcasses disjointed. A pot is half filled with cold water to which is added as seasoning, one tablespoonful of vinegar, one tablespoonful of salt, one pinch of soda, one teaspoonful of sugar, pepper to taste, and the water is brought to a boil. The prepared muskrats are then added and left in this seasoned fluid until the whole mixture again begins to boil. They are then strained in a colander, rolled in seasoned flour and fried brown. A brown gravy may be prepared since it adds excellently to the taste of the whole dish. Many people also enjoy the substitution of a typical Italian tomato gravy for the brown gravy, but this, in the writer's opinion, tends to mask too much the special flavour of the game.

Muskrat livers are also unusually delicious, equalling the finest chicken livers as an ingredient for various dishes. The writer has also eaten muskrat liver that had been pickled in appropriate solutions, and has found it extremely enticing months after it had been preserved. The muskrat meat other than liver can also be very successfully pickled with the various pickling solutions used for the preservation of other meats."

Many Ontario trappers and others have enjoyed eating the flesh of this clean-living little animal, and so we suggest to the trapper that perhaps he has been passing up a valuable source of revenue through failing to completely capitalize on the results of his operations. If the fur becomes a luxury when called "Hudson Seal", perhaps the carcass would be just as popular if its appetizing qualities were better known. However, in Ontario, the carcass must not be sold or served publicly under any other name than the one by which it is known, even if the latter is rather suggestive of "musk" and "rat". The flesh may be legally sold provided a permit is obtained from the Department. Sec. 11, Sub. Sec. 5, Game and Fisheries Act.

The Attic Room

By Robert F. Keagle

To a real devotee of trout fishing—
And that's what I claim to be—
Each winter month seems endless
As a separate eternity;
I know that my measure of patience
Would reach the vanishing point
And the rest of the world in general
Would seem quite out-of-joint,
Were it not for that store of tackle
Up in the attic room
That has served so well and so often
To chase "out of season" gloom.
In dollars and cents I don't suppose
The total would come to 'much—

Just a few well-worn and battered rods,
Old flies, frayed leaders and such—
But the value of the memories
That cling to each article there
Make them to me, adversely,
Treasures beyond compare. . . .
I fondle over them lovingly
Like a miser counts his gold,
For each brings recollection
Of thrills that never grow old.
And so, while winter hours march
With the slowness but sureness of doom;
I doctor my fishing fever
Up in the attic room.

—Pennsylvania Angler.



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DEPARTMENT OF
GAME AND FISHERIES

March - April
1939

HON. H. C. NIXON
Minister

D. J. TAYLOR
Deputy Minister

DEPARTMENT OF GAME AND FISHERIES

TORONTO ONTARIO

HON. H. C. NIXON, *Provincial Secretary,*
Minister in charge of Department.

D. J. TAYLOR, *Deputy Minister.*

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National Wild Life Week

THIS is National Wildlife Week—March 19-25—in the country to the south of us, and during this period conservation organizations with the backing of State and Federal Governments are endeavouring to make the nation more deeply conscious of the economic and recreational value of wild life and the many complex problems which enter into the rehabilitation and protection of these resources. The idea has tremendous possibilities when nationally sponsored because it thereby receives an impetus and driving force of very great educational and publicity value.

It is fitting, too, that the dates should include the first days of spring, according to the calendar. No season of the year could be more appropriate, for spring represents the re-awakening of Nature from the enforced hibernation and deep slumber of winter. Already there are signs of new life and new hope in forest and field, while migratory birds are returning to their natural haunts. Our personal lives are also made brighter by the warmth of the sun and the spirit of the season, for, however much we may enjoy the attractions of winter, it seems to lack the real joys which are to be found in the rich environment of Nature; resplendent, active, pulsating with life. With the reviving activities of spring the sportsman and nature lover turn their thoughts to seasonal outdoor recreation and aesthetic pleasure. Renewed wild life activity in field and stream holds out great promise for those interested.

It seems appropriate then, as we begin to interest ourselves anew in the recreational possibilities and economic value which wild life represents, that we should devote some time to the study and practical application of such measures as are necessary to protect our heritage. Administrative problems are complex, but the individual can greatly aid in their solution by sharing the responsibility of protecting, aiding, and renewing wherever possible, and by practising the highest ideals of sportsmanship. Let us extend our interest in wild life to cover fifty-two weeks and the solution of our problems will be simplified.

Anticipating the Season

As we write a semi-blizzard is raging and the landscape is mantled in white. The environment of field and stream is rich in the picturesque phantasy of snow-laden trees and ice-bound rivers, broken here and there by the speed and pressure of the current. From the standpoint of beauty and

the richness of creative art, there is in such a scene sufficient natural charm to impress one with the magnificence of the great out-of-doors. The ardent angler is not slow to appreciate the fascination of such a picture, but his imagination carries him further and he visualizes the potential possibilities for recreational pleasure in that stream of cold, blue water hurrying between a fairyland of snow and ice to the reservoir into which it flows. In a few weeks the trout season will be open once more and the romance of winter will give place to the anticipatory pleasure which the opening day always arouses. The soldiers sang "It's a long way to Tipperary", and the angler sighs "It's a long time between the end of the bass-muskie season and the opening of the trout season!" Well, the time can now be counted in days without seeming unduly over-anxious, so get out the tackle once more and see that everything is in ship-shape condition.

It is a far cry from those pioneer days of which many old-timers still speak; either from hearsay or practical experience; days when the streams had a steady, natural flow from Nature's water sheds, and fish life abounded. In those days trout were taken for the most part to supply food, and the recreation was incidental. That there was a measure of recreation of a kind, as well as an abundance of fish, is borne out by the following description of a day's fishing as told to us by an old-timer, recently passed on. The party usually drove by team and wagon to a shack by the side of the stream, where the gear, grub and refreshments were unpacked. Then one or two of the more ardent started out to fish the stream. If it was a fine day the others carried a table out of the shack and prepared to play poker or whist; if the day happened to be disagreeable they played in the shack. Before settling down, however, a line was fastened to a small bridge which crossed the stream at this point, and the hook baited with a nice juicy worm. Between deals, or at other appropriate times, one of the players inspected the line, unhooked the fish and rebaited the hook. By the late afternoon there was usually sufficient fish to satisfy the demand and a pleasant time was had by all!! Reminds us of the old quip that "happy fishing parties have been spoiled by erratic individuals who insisted on 'fishing' "!

Today, the process has been reversed, and to the good sportsman fishing is recreation of the finest kind, and creel limits are but incidental. Modern fishing equipment costs money, in fact the enthusiast is not satisfied unless he has progressively added all the latest scientific appliances to his equipment, and the assembling of this up-to-date paraphernalia can make a fair-sized dent in any bank balance. The angler does not provide himself with all this expensive equipment just to obtain food for the table; such a procedure would be too costly and fish can be bought much less expensively in the stores and market places. It is true also that angling with all the refinements of the art and the self-imposed handicaps which are a part of the game and which give the fish a fighting chance, has developed a code of ethics which is doing much to conserve the resources and ensure wise use. The fishing environment and the fishing beatitudes, plus the thrill of the sport, spell physical rejuvenation and mental relaxation, and these, rather than the catch, are the things which count.

We believe the trout fisherman has much to cheer about in the present

outlook for his sport. Stream facilities for a variety of reasons, may not be so extensive as they were in pioneer days, but they are still generous enough to satisfy all but the most exacting demands, and the intensive restocking programme which has been carried out during the past two or three years has renewed the possibilities of pioneer abundance. Small streams, and large streams, which for many years have not yielded returns commensurate with the amount of stocking done in them, are now being discovered anew, for they have been liberally stocked with yearling or adult fish of a kind suited to the area.

The success of the effort being made by the Department to build up the stream resources will depend in some measure upon the co-operation of the sportsman and his sense of responsibility for a proper interpretation of the regulations. There will probably be thousands of undersize fish in each stream and these little fellows will be found to be very aggressive. Handle them carefully when you return them to the water, as all good sportsmen will. They are intended to replace those you may legally take; in banking parlance they are the deposits which enable you to keep on making withdrawals.

And, if perchance, you can do anything to improve the conditions on your favourite stream, either by providing shade, vegetation, or a continuous flow of current, then by so doing you will advance your own sport and help develop the resources which make it possible.

Of Interest to Anglers

In order that anglers may have the opportunity of taking advantage of the week-end preceding May 1st, which is a Monday, it has been decided to open the speckled trout season this year on Saturday, April 29th.

Concerning the Recent Tularemia Scare

You probably have noticed that the conventional salutation when man meets man is framed as a query concerning health. "How do you do?" "How are you this morning?" or various modifications of the same theme; in fact few of us pass the day without reciting to our friends the complete details of our physical welfare. Good health is of tremendous importance to us, because without it life loses its zest, and pessimism becomes an ever-present spectre of defeatism. This constant discussion of our ailments—their cause and effect—often leads us to the conclusion that most of our ills are due to the pace and standards of our civilization, and we smugly assert that if we could get back to Nature and a simplified form of living we might escape most of the ills the flesh is heir to. Well, it might be better for us, physically and mentally, if life were a little less strenuous; and if we spent more of our time in the environment of the out-of-doors; but to imagine that the creatures of the wild, because of their close association with Nature, live a more or less protected life, is to delude ourselves. There is probably just as much sickness among wild life as there is in the more artificial haunts of human habitation, and we are learning more about it every day through research, experience and scientific study.

The laws of Nature have little respect for the weakling, and the code

of the forest is stern and unsympathetic. As soon as an animal becomes weakened by sickness it crawls off into some hole or corner where it is safe from observation, and either weathers the physical storm which has beset it, or dies; in which case the natural elements quickly return it to the earth. If it fails to find a haven it is likely to be eliminated by some other predatory bird or animal. We human beings make the comfort and welfare of the sick our chief concern, but when a wild animal becomes sick it immediately faces extermination, because in its weakened state it is no longer able to defend itself. Sick or dead mammals and birds are hard to find. This is one of the reasons why disease investigation is difficult.

It is known to all those interested in wild life that epidemics and diseases of one kind and another are the heritage of the creatures of the wild just as much as they are the bug-bear of human beings. Some of these diseases are spasmodic and occur at irregular times, others, it has been determined, have a fairly regular recurring cycle. All of them, however, are far reaching in their effects. There was, for example, the outbreak of duck sickness, or botulism, which wiped out thousands of ducks in the western United States some years ago. According to the U.S. Biological Survey, "On the south side of Willard Spur near Great Salt Lake in Utah, on November 12, 1932, there were eight to ten thousand dead ducks to the mile of shore line for a distance of six to eight miles, and this is by no means the worst outbreak on record."

Diseases affecting wild life, as discovered by scientists, are so extensive and comprehensive as to baffle the layman. There are certain conditions which exist, however, with which the hunter and trapper have long been familiar, such as the cycle of abundance and scarcity during which many species of mammals and birds reach a peak in numbers or die off and become almost extinct. With the ruffed grouse and the rabbit the peak from abundance to greatest scarcity and back to maximum abundance averages about 10 years. Now this phenomenon may be a wise provision of Nature for controlling the species affected, but it is opportune to point out that for many years biologists have been just as much puzzled as to the cause as has the layman. These biologists have considered the various destructive agencies that may be involved in this peculiar cycle of scarcity and abundance, but so far nothing seems to fit the conditions so adequately as "disease". Research from this premise has discovered an amazing number of diseases and a multiplicity of contributing factors leading up to the various ailments.

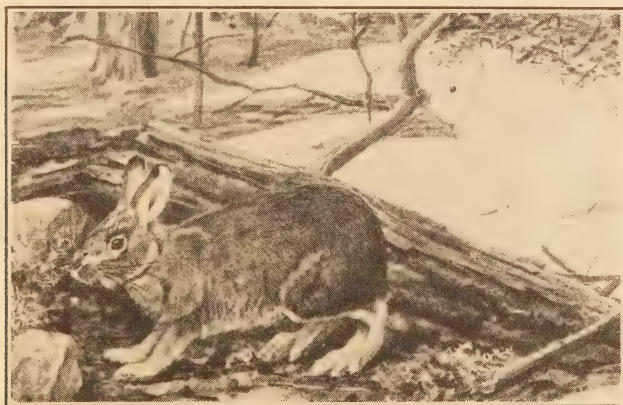
This article, however, is not intended to be a treatise on animal diseases, so before we become too involved let us switch to the real subject matter of our theme. Early this year there appeared in one or two newspapers published in south-western Ontario startling reports to the effect that "Tularemia" was very prevalent among rabbits in certain districts, and there were suggestions that several hunters had been mildly infected with the sickness. The newspaper stories were quite dramatic, and the alleged opinions of the hunters lent colour to the tales.

Before proceeding to discuss the matter, we desire to point out rather emphatically that we have no intention of minimizing the danger from

Tularemia where such exists, nor the necessity for precaution where sickness among animals or birds is noticed. Tularemia is communicable to humans in a variety of ways; such as by contact with the disease, by being bitten by an infected blood-sucking fly, tick or flea which has been feeding on or attached to an animal suffering from Tularemia; by swatting one of the afore-mentioned insects so that the skin becomes smeared with the infected body juices of the insect, etc. "Prevention is better than cure", and precaution is at all times desirable, but there is no need for undue alarm, for experience in the Province of Ontario has shown a fairly clean bill of health in this regard.

Tularemia is a comparatively new disease and one which has received a great deal of prominence. Hunters have learned that it affects rabbits—among a variety of other animals and birds—and may be contracted by contact, but unfortunately they know little or nothing about the actual disease and are to a large extent unacquainted with the symptoms. As a consequence it has become the usual thing to exclaim "Tularemia" whenever a bruise, abrasion or sore is noticed on a rabbit. According to a report of the Minnesota Wildlife Disease Investigation Board the typical lesions of tularemia as found in the Cottontail rabbit—as the result of the investigation of a number of the species—are "focal neurosis of the liver and spleen"; in other words, and by way of simplicity, a diseased condition of these organs. "Enlarged lymph nodes," says the report, "have also been observed." These are tumors of a colourless fluid which might appear on different parts of the body.

Speaking of the Snowshoe hare, the report continues: "It is our finding that although tularemia is a very common infection in this animal, the natural infection is usually non-fatal and is not accompanied by lesions typical of tularemia as described for cottontail rabbits in nature, and for domestic rabbits and guinea pigs under laboratory conditions. In only 4 of 35 hares studied by us have such typical pathological lesions been present. Enlargement of the spleen and necrosis of the lung appear to be the most



Varying Hare or Snowshoe Rabbit.

common lesions of tularemia in hares. Lung abscesses, which apparently are absent in the cottontail rabbit, are an appreciable part of the pathological picture in the snowshoe hare." In other words, the disease may assume a variety of forms in different animals, but without exception it is almost wholly internal.

We have quoted these brief descriptions of the typical symptoms of the disease in hares and rabbits to show that diagnosis is more a matter of laboratory investigation than of snap judgment, and that it is difficult for the layman to determine the disease in any offhand manner. However, animals suffering from this malady will have a sickly appearance, even at normal hunting distance, and will be slow on the get-away, obviously lacking vigor. In such cases care should be exercised and examination made for external signs of internal disease.

As previously remarked we have no intention of setting up any false security on a matter which always has an element of danger in it; at the same time we feel that the facts as we have found them, arising out of the recent more or less disquieting reports, will be of interest to hunters.

In connection with recent investigations in the Province we have before us a report by Dr. D. MacLulich, of the Department of Biology, University of Toronto, dated 1937, on "Fluctuation in the numbers of the Varying Hare". Dr. MacLulich examined a large number of hares during the course of his investigations and reports "No hares were found sick with tularemia". Further tests revealed four which had had the disease but were now recovered.

With further reference to the subject the author continues: "An epidemic among cottontail rabbits has been observed by the writer in March, 1934; during one day's searching eleven dead rabbits were found, and others had been seen during the preceding three weeks by Mr. W. H. Robb. In all specimens that were in suitable condition it was found that the lungs were pneumonic and the immediate cause of death appeared to have been



Cottontail Rabbit

suffocation by pleural hemorrhage———The causative agent was not discovered but it was practically proven that the epidemic was not due to tularemia.”

In order to find out what were the actual conditions in the southwestern part of the Province, from whence the tularemia reports had emanated, the Department communicated with all of its Overseers in that section, requesting them to investigate the situation and forward to the Department for examination any carcasses suspected of being affected with tularemia. Reports on these investigations are all to the same effect, with no positive proof of the disease. The following brief extracts are typical of the whole. “I have not had any cases reported to me at any time here in the County, and what rabbits I have been inspecting do not show any condition other than a healthy one.” “I have noticed in newspapers for the last two weeks reports of such a disease among rabbits. Have made enquiries and looked over rabbits very carefully ever since and in this district can find no evidence whatsoever of this disease.” A newspaper report to the effect that several hunters had contracted the disease was traced by an Overseer to the reporter who wrote it, in order to get definite information. He interviewed the newspaper man and the latter “admitted he had no foundation for the statement, only hearsay around town, and he knew of no cases”. The same officer reports an interesting case. He learned that several weeks previously a certain man in the district was reported to have contracted the disease but later on it was diagnosed as typhoid fever. The Overseer interviewed the doctor in the case and was advised by the medical man that “the first three or four blood tests showed positive for tularemia, then it showed typhoid”. The officer adds that the patient had handled no rabbits and is not a hunter. “I wish to advise that I have asked numerous hunters and none of them have noticed any disease in any rabbits killed, nor have I had any reports of any cases in this district.” “I have investigated and find that it is mostly rumour.” “Having made a careful investigation regarding tularemia in —— County, I beg to report I can find no evidence of it and am unable to secure a specimen for you. Just today I investigated a report where a doctor in —— was reported to be treating a case of this disease. I interviewed this doctor and he informs me that he has never treated a case and has never heard of a case in —— County.”

Three cottontail rabbits were received by the Department for examination as a result of our request for specimens. These were turned over to Dr. Hadwen, Director, Department of Pathology and Bacteriology, Ontario Research Foundation. His report on the three specimens submitted follows:

“We found lesions on the skin of the feet in these animals which closely resemble the warty growths we had previously found in rabbits from Weland and Navy Island. Warts on the feet and head appear to be of common occurrence in the southern part of the Province. Microscopically they appear to be non-malignant growths and do not extend below the skin. In recent years it has been proved that warts are contagious and are caused by a virus. The meat of these rabbits would be perfectly safe to eat after cooking.”

“In the examination of the internal organs we found a large number of

flukes in the small gut—these are about the size of grains of sand. We are unable at the moment to tell you how the rabbits became infected but it is certain to be through the agency of a snail. These parasites, which we called *Hosstilesia tricolor*, may cause a certain amount of harm to the rabbits but they are quite safe to eat.”

Tularemia has been recognized as a disease for a comparatively short time, and there is considerable misunderstanding among sportsmen as to its characteristics. For this reason a great deal more is heard of it than would otherwise be the case, because it apparently has become a convenient term for describing every unnatural condition found in hares and cotton-tails. This tendency to generalize frequently causes a great deal of unnecessary alarm, for the word has rather sinister associations, yet we prefer to find the hunter exercising all necessary care rather than taking chances. So far we have only been able to find record of one case of a human being infected with tularemia in the Province and that was in Northern Ontario several years ago.

Obviously this is not intended to be a treatise on Tularemia, but rather to present a picture of the situation as we have found it to exist, and a probable explanation for some of the rumours which have been in circulation. It is possible that the disease may exist, for its ramifications are quite wide, and wild life diseases are evidently a part of the great scheme of Nature for maintaining a proper balance, but if it does it is unknown to the Department, and we therefore feel justified in making this explanation.

The Fraternity of Anglers

“All men are equal before the fishes. But yet the fishermen have their own social classes, depending on whether one uses a fish pole or a rod—they call them rods if the cost is more than five dollars—and upon the kind of bait used, worms, plugs or flies, and whether you fish it on top of the water or underneath. Talk about your social four hundred.”—*Editorial.*

The results of conservational education are becoming more obvious every day and nice distinctions of etiquette and practice are being stressed by those who are sportsmen in the keenest sense of the term. We attended the annual banquet of one of our most active protective associations the other evening and one of the speakers, referring to the members, remarked in effect that he preferred to call them “anglers” rather than “fishermen”, because fishermen were interested in catching fish, while anglers were interested in the art of fishing and fish were but a means to that end. It reflects the spirit of the times and presents the proper approach to a sport which offers more to the player than any other outdoor recreation.

No sport is so democratic as that of angling. Its active followers include kings and presidents, millionaires and peasants, executives and workers; in short, rich and poor, young and old of both sexes, and drawn from every sphere of life make up the angling fraternity. Yes, there is a “Fraternity”, unorganized 'tis true, and with an unwritten constitution, but it has its ritual and code of ethics, its various degrees beginning with initiation and

proceeding by the rule of knowledge and experience, through the different stages of the art.

Initiation is represented by the youth with his bamboo pole and can of worms, or the beginner with crude tackle and no experience. Here there is a lack of knowledge, but a burning desire to explore the possibilities and the hidden mysteries of lake and stream. Even with his crude equipment the youth gets a tremendous thrill out of his first catch, whether it be a fighting bass or a golden-hued sunfish, and so he becomes initiated into the mysteries of angling.

From experience and association with other skilled brethren he learns that the pleasure and thrills to be obtained from the sport may be considerably intensified by the use of refinements in equipment, and so in due course he becomes possessed of a rod, instead of a pole, together with a more expensive reel and line. So far his methods of fishing have not changed much, but when he hooks his first fish on the new tackle and the rod bends almost double while he struggles to wind the reel, he feels he has attained the ultimate in fishing pleasure. He has, as a matter of fact, progressed to the second stage, and become firmly established as a member of the fraternity.

With his interest aroused and the possibilities of the sport becoming more and more apparent to him, he finds through association and exploration that there are other stages of the art to which he may aspire. He finds, for example, that "still-fishing" with live bait is not the alpha and omega of the sport. He is introduced to a new world of artificial lures; plugs, spoons, bugs, spinners and fish-like bait all gaudily painted and carefully planned to fool the fish. For the first time he becomes familiar with a casting rod and a free spool reel, and, equipping himself with the necessary paraphernalia, he is instructed in their use. "Practice makes perfect", and so our fraternity brother finds himself enjoying new thrills and incidentally gravitating a step higher in the order.

Progress in any sphere of life is the result of knowledge, experience and diligent application, and the same holds good in the all-round development of an angler. The thrill of bait casting naturally leads our aspiring brother to a study of the intricacies of fly fishing. Here he learns that there is a new technique involved and that once more special equipment is necessary to the proper enjoyment of the sport. This last stage in his progressive advancement through the different degrees of his fraternal education is a highly technical one. Devotees will tell you it is the ultimate in the art of angling. It is based on the use of lures delicately and wonderfully made to represent the flies and nymphs upon which the fish are to be found feeding, and, the ability of the angler to drop the fly, at varying distances, in a natural manner. Without attempting to describe the process, it can be said that it requires considerable skill. Having acquired the knack, however, it will be found that the angler has had opened up to him an entirely new vista of piscatorial possibilities.

This brief review of the knowledge necessary to acquire all the degrees in our mythical fraternity is not intended to differentiate between the various groups or to even suggest that such extensive knowledge is necessary to

a full enjoyment of the sport. As a matter of fact the pleasure and thrills to be derived from fishing are a reflection of our mental attitude rather than the equipment used. What experienced angler will ever forget the joy of those barefoot days, and his unbounded excitement when he landed his first fish? The pole used was probably cut in the bush on the way to the fishing ground and the line was of the cheapest quality; if perchance it was not just a piece of string. These handicaps, if such they were, counted for nothing when the fish struck, and a mighty heave landed it on shore, while a tremendously excited boy pounced on it and held it fast.

It may be true, as suggested in the quotation at the beginning of this article, that the fraternity has its own social distinctions based on angling methods, but we would like to emphasize the fact that good sportsmanship depends upon the attitude and ideals of the individual rather than the methods employed, provided these are legal. The thoughtless and the unscrupulous can still pillage and plunder whether they use worms, plugs or flies, and whether they fish them on top of the water or underneath. To thoroughly enjoy any or all of the different methods of angling, one must be careful to completely observe the regulations pertaining to the taking of fish, and be guided by the highest ethics of sportsmanship.

To revert to our mythical fraternity, it is to be noted that knowledge in the art is not of itself a passport to all the secrets of the order. The experienced member will gladly initiate you into the mysteries of bait and fly casting, etc., but for the most part is neither ready nor willing to divulge to you the location of his favourite fishing grounds, until such time as you have measured up to his ideals in sport and social compatability. As a good friend of ours remarked the other evening, "he will tell you all the details but studiously omit the road signs". One can hardly blame him for this. A secret water hole is secret no longer when one tells it to the world, and there is a proprietary right which the years have conferred and which must be protected.

We once knew an enthusiastic fisherman who returned to town every other week or so with some of the finest catches of speckled trout we have ever seen. Very proudly he would open his creel and display his catch for the admiration of his friends. He was pestered, cajoled and entreated to tell where he got them, but steadfastly refused. "Selfish", you say. Well, it appeared that way to us, but it really was not, for, after all, his fishing Eldorado, wherever it was located, was his discovery, and if he did not care to share it that was our misfortune. All of us had equal opportunities of making such a discovery for ourselves. His nearest approach to a gratification of our personal curiosity was an assurance that he would take us with him some time soon. We waited long for that eventful day which never came. Nor did he ever tell anyone where he got them, and we never definitely found out—although we believe we subsequently located the spot—for he passed on to those happy ethereal fishing grounds from which there is no return, taking with him the secret we longed to know.

Members of the fraternity wear no pins or other distinctive badges, but are easily distinguished after May 1st by their lack of interest in the ordinary details of business and social life and their general impatience that so many working days should intervene between each week-end.

To become a member of this great organized fraternity all that is necessary is a love of the sport and a keen sense of the responsibilities applicable to sportsmanship. These responsibilities are not mythical; the conservation of the resources and the future of the sport depend upon the practice of proper ethics.

Sportsmen and Legislators Discuss Fish and Game Problems

The annual two-day meeting of the Fish and Game Committee of the Legislature and the Sportsmen's Associations took place on March 29 and 30. There was a large representation of sportsmen at both sessions; in fact delegates were so numerous that they overflowed into the space reserved for the Committee.

The first day was devoted to game, and so the hunters led off. The Honourable Mr. Nixon, Minister of the Department, welcomed the delegates, thanked them for their presence—noting that some had come from great distances—and assured them that it was the desire of the Department to co-operate with them in every possible way. From information in the hands of the Department and from his own personal knowledge and observation he expressed the belief that the game situation in general throughout the Province was in good shape.

Representatives of the various associations present then submitted written recommendations, explaining and enlarging upon these as necessity demanded. Some of these were of a local nature, as was to be expected, but the delegates were careful to point out the conditions which existed and which they believed would justify the changes suggested. No radical changes were recommended and it was evident that the spirit of the meeting was one of co-operation and a general desire to strengthen the hands of the Department in its efforts to conserve and develop the game of the Province.

The second day was devoted to fish, and there was just as large a representation of anglers as there were hunters the previous day. The Minister again welcomed the delegates, and in the course of his remarks spoke of the extensive programme of hatchery expansion which had been carried out during the year. In connection with the propagation of fish he drew to the attention of those present a chart prepared by the magazine "Hunting and Fishing" from data supplied by official sources, showing the conservation activities of the various provinces and noted that the Province of Ontario raised and planted more fish during the year 1938 than all of the rest of the provinces combined, including the Federal Government. Because of these extensive fish culture operations the waters of the Province were being rapidly re-stocked and the result was apparent in improved fishing and an increase in the revenue from non-resident anglers.

A great many of the angler delegates addressed the Committee and presented recommendations from their respective Associations. In several instances the speakers differed among themselves as to certain suggested changes in open seasons, and the pros and cons were clearly set forth from the viewpoint of both sides. Decision on the matter was, of course, left to

the Committee. No drastic changes were counselled, although some of the delegates urged a stiffening of the penalties for breaches of the Act.

Attending both meetings one could not but be impressed by the splendid spirit of co-operation which characterized the attitude of those who spoke. It was evident that the various associations represented, recognized the economic and recreational value of the resources and were not slow to express their appreciation of the progress which had been made in recent years in the matter of protecting, propagating and re-stocking. It was to the end that the good work which is being done might not be nullified by infractions of the Act that many of the recommendations were made.

At the present time we cannot say what changes will be incorporated in the Regulations, but we do know that if sportsmen everywhere will observe the laws, whatever they may be, and co-operate to prevent needless waste and illegal taking, the work of conserving the resources will be greatly lessened.

Then It Happened!

Experiences in the great out-of-doors are the most varied to be found anywhere. The thrill of the unexpected in forest or field, or the big fish that got away, provide lasting memories which never seem to lose their appeal or grow less eventful through repeated telling. Indeed, it has been found that age but serves to embellish the incidents with additional thrills which frequently results in a combination of fact and fancy productive of good yarns. It is this tendency to excusable exaggeration which sometimes earns for the sportsman the "ha, ha" of his friends whenever he tells that story of his breath-taking experience with rod or gun. Yet these embellishments are just the frills—like the dab of parsley with which the fish is sometimes garnished when served up; or the descriptive side issues which elaborate and fill out the modern novel; beneath and beyond is a solid foundation of facts, and these are always interesting. With this in mind we offer this personal experience as something mysterious, if not unique, with a dash of the supernatural and a thrill which is just as vivid today as it was when we experienced it back in '31.

During the deer season that year, I had the good fortune to be hunting with some congenial companions on the north shore near Killarney. We were living on board the small gasoline launch with which we had reached the hunting grounds, under the shelter of a tent erected on deck. A small stove provided plenty of warmth, and while the accommodation was somewhat cramped it was very comfortable. For several days we had hunted with varying degrees of success, the more expert members of the party seeming to have all the luck. If you have never been on a deer hunting party you probably don't know much about the supreme joy of the evening hours, after the last meal is over and the gang settles down to discuss the experiences of the day. Under such circumstances men are men; restraint is abandoned and good-natured banter is freely exchanged. The atmosphere may be blue with tobacco smoke, but it radiates peace, con-

tentment and real happiness, such as cannot be found in an environment of artificial pleasure.

After one such day of strenuous activity in the bush and an evening of pleasant relaxation I crept under the blankets on the hard deck, at peace with the world. During my unconscious hours I found myself, through the mysterious workings of the subconscious mind, sitting down resting and enjoying a smoke at the edge of a clear hardwood bush. I was gazing more or less idly through the open spaces and hoping against hope that the motion of a head or the flick of a tail would reveal the presence of a legitimate quarry. Suddenly a large buck rose up quite unexcitedly only a short distance from where I was sitting and in my direct line of vision. His magnificent spread of antlers framed against the background of light filtering through the trees proclaimed him king of the forest. He looked at me for a moment, tossed his head once or twice, and then with a bound disappeared into the bush. The picture faded; but it was so vivid that almost my first words on awakening were, "Boys, I'm going to get a nice big buck today", and then I proceeded to tell them about my dream. I was chaffed good-naturedly, but that morning I started out feeling keyed up with anticipation, and inwardly praying that some such experience might become a reality.

The lunch hour passed without anything exciting happening, although I had tramped for miles "still-hunting". During the early afternoon I crossed a flat table of rock at the other end of which there was a drop of about six feet to the ground. I sat down with my legs dangling over the ledge of rock, laid my gun to one side, and proceeded to light my pipe. I had long since forgotten my dream, and almost given up hope of getting a deer that day. Within a few feet was a small hardwood bush of birch and maple almost clear of undergrowth, but the fact had no significance. I was just smoking—as little Benny would say—and peering through the light and shadows, framed by those sentinels of nature, to the distant edge of the wood.

Then it happened!

Not more than two hundred feet from where I was sitting, what appeared to be the largest buck I had ever seen rose up suddenly from behind a tree, and quite in the open, stared at me a little nervously for a moment, then bounded off. My first reaction was one of amazement, then my dream flashed before my mind. The circumstances were almost identical; it was my buck! I hurriedly grabbed my rifle, although I had lost a precious moment or two, and just got a further fleeting sight of the buck as he passed between the trees. I fired, and—yes, it would be a good story if I could say I got him, but I didn't! A round hole in each of two birch trees told the story of my dismal failure as a marksman, but I was perfectly happy, for I had enjoyed one of those rare thrills; a combination of imagination, anticipation and realization which make the outdoor sports so delightful, and provide lasting memories which are a joy forever. Either incident

alone would be commonplace, but the sequence and similarity of both make the experience as mysterious as it was fascinating.

The Yellow Perch (*Perca Flavescens*)

Whenever the ice starts to break up in the spring the impatient angler begins making enquiries as to whether the perch are in. For months he has been looking forward to the day when the news would flash from lakeside to town that "the perch are biting", for this handsome fish formally opens the angling season each year.

The perch is generally found in abundance in most of the waters of the Province. It is a shapely, well-proportioned fish, its depth being about one-third of its length, and its back somewhat arched. The head looks small in proportion but the mouth is of moderate size, with small, sharp teeth and a projecting snout. The back is dark olive in colour while the sides are a bright golden yellow, broken up into sections by half a dozen or more broad, dark, vertical bars. The colouration will vary somewhat under different conditions, but it is always sufficiently brilliant to classify the perch as one of the most beautiful of our fresh-water fishes.

The perch spawn in the early spring; during May mostly, but earlier where the temperature of the water is warmer. The eggs are deposited in an interesting formation, being laid in long, ribbon-like masses sometimes exceeding six feet in length and from one to three or four inches wide. The eggs are held together by a glutinous, or jelly-like substance, and are small in size, measuring about twelve to the inch.

The yellow perch travel in schools, and it has been noted that the fish of the school are generally of a more or less uniform size. Its usual length is from about ten to fourteen inches and its weight varies from a half to two or more pounds. There is definite record of a 4¼-pound specimen having been caught in Delaware Bay. It prefers reasonably deep water, although after leaving its winter quarters subsequent to the break up it literally swarms about the piers, wharves and sheltered bays, where it provides excellent sport for men, women and children equipped with almost any kind of tackle.

As a sporting fish the perch is chiefly to be commended for the reason that it is easily caught. It can be taken with hook and line and almost any kind of natural bait, such as worms, grubs, grasshoppers, minnows or pieces of fish. The minnow appears to be the most popular bait. For those anglers who are skilled in the art, and fussy enough to demand refined tackle for all kinds of fishing, it will be found that the perch will, on occasion, rise freely to an artificial fly. Taken with a light rod, and the line, leader and hooks to correspond, the yellow perch will, under such circumstances, put up quite a fight and provide the good sportsman with lots of fun.

As a table fish, there is fairly general agreement that the perch occupies a leading place among all of our fresh-water fishes. The flesh is sweet and of delicious flavour, and one does not readily tire of it. Because of this fact it is of considerable economic importance and commands a ready market.

As it is usually found in schools, bites freely and is not classed as a game

fish, there is a tendency to take the yellow perch in larger numbers than are necessary for personal use. Anglers should be satisfied with a reasonable catch, keeping in mind the fact that waste is never justified.

Whistling Swans Escape Niagara Death Trap

Of several hundred Whistling Swans which landed on the river above Niagara Falls about the middle of March, not more than twenty were swept over the Falls, according to information received by the Department of Mines and Resources, Ottawa. The Royal Canadian Mounted Police, which carried out patrols to prevent molestation of the birds, report that nine live swans were seen on the ice below the Falls, of which three died and one was swept under the ice. The birds were first noticed in the vicinity on March 15, but by March 19 most of them had continued on their northward flight to the nesting grounds in the Canadian Arctic.

Long famous as a mecca for honeymooners from all parts of North America, Niagara Falls is on one of the principal migration routes for waterfowl. It is a natural swan trap, which in some years takes a toll of whistling swans in spring. The birds land on the water above the Falls to rest, and are swept down by the swift current almost to the brink of the Falls. When the swans discover their danger they struggle into the air and fly upstream, only to land on the treacherous waters which sweep them into danger again. The birds continue these actions until, weakened by lack of food and rest, many of them may be eventually carried over the Falls to destruction. Efforts to frighten the birds away from the danger zone have met with little success.

The Whistling Swan is protected at all times by the Migratory Birds Convention, and the Royal Canadian Mounted Police co-operate with officers of the Niagara Parks Commission and provincial game wardens to prevent the birds from being molested by persons attracted to the area by the swans' plight.—*Canadian Resources Bulletin*.

Spawning Salmon Prey for Fishing Wolves

Quite a lot of us didn't know it, perhaps, but wolves are fishermen as well as hunters. At least, they're salmon killers, like the bears. "This year," says the 1938 report of one of the British Columbia inspectors of the Dominion Department of Fisheries, "wolves were a decided menace to the salmon runs. . . . In other years where the odd salmon would be found fished out by wolves, this year there were tens and hundreds." The reference, of course, was to conditions on salmon spawning streams in the more remote areas.

What Mr. Wolf does is to wait watchfully near shallows in the river. A lightning grab when a fish comes along and there is food in Mr. Wolf's stomach—but one less salmon to reach the spawning grounds. That's the serious part of it, the fact that the salmon was headed for the spawning grounds, for each adult fish destroyed means fewer little fish to grow up into big fish in future runs on which the salmon industry depends.

Natural enemies probably take a large toll from the salmon stocks,

though there is no means of measuring the loss, and in the very nature of things these enemies can be subject to limited control only. That is one reason why fisheries authorities have to be watchful to see that there is adequate conservation of the fishery by means of regulation. Otherwise the drain upon the stocks as a result of the depredations by natural enemies combined with inadequate conservation measures, might be a very serious matter for the salmon industry.—*Dominion Fisheries News Bulletin.*

Opening Day

By Robert F. Keagle

After months of weary waiting
Could you bear to stay away,
When some mountain stream is calling
On opening day?

Could you give your best endeavour
To your daily work,
Each detail its proper measure
And no duty shirk?

Spring is back among the mountains
Green-things growing scent the air,
Trees are budding, ferns are springing
Through the leaf-mould everywhere.

Hark, your favourite stream is calling,
Let no laggart bid you stay,
Out, away, from care and worry!
On the opening day.

—*Pennsylvania Angler.*

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